AUTHOR INDEX

A

Abbot, A. D., 456
Abe, H., 110
Abe, R., 82
Abel, E., 228
Abragam, A., 103, 104, 261
Abraham, B. M., 38, 39, 40
Abraham, M., 104, 114
Abraham, R. J., 114
Abrahams, E., 104
Abrikosova, I. I., 441
Abu Elamayen, M. S., 224
Acharya, R. C., 51
Adams, C. R., 267
Adams, E. D., 458
Addamiano, A., 3
Addison, C. C., 65
Addy, J., 274
Adell, B., 229
Aditya, S., 222
Adrian, F. J., 110
Ahrland, S., 229
Aihara, E., 100, 259
Åkelind, L., 318
Akerman, E., 289
Akerman, M., 212
Albers, W., 444
Alberty, R. A., 101, 221
Albright, J. C., 346
Alder, B. J., 62, 381
Alder, K., 308
Aldrich, L. T., 37
Aldrich, R., 191
Aleinekova, I. N., 450
Aleksandrova, G. I., 448
Alekseevskii, N. E., 404, 409
Alexander, A. E., 457
Alexander, C. A., 5, 6
Alexander, P., 149
Alfred, E., 299
Alfrey, T., 193
Alger, R. S., 132
Allen, A. O., 136, 138, 139, 140, 150
Allen, H. C., Jr., 345, 372
Allen, P. W., 359, 373
Aller, B. V., 269
Allin, E. J., 321, 349
Allison, K., 325
Allison, L. E., 160
Allred, A. L., 97
Almenningen, A., 362
Altar, W., 428
Altshuller, A. P., 2
Amamiya, A., 101, 133
Amat, G., 345
Amberg, C. H., 452
Amble, E., 371
Ambler, E., 27
Ambrose, D., 9
Amdur, I., 248
Amelinckx, S., 86
Amemiya, A., 133
Amis, E. S., 223
Amphlett, C. B., 160
Amstutz, E. D., 239
Amy, J. W., 341, 344
Anand, K. S., 171
Anderson, D., 168
Anderson, D. H., 100
Anderson, H. R., Jr., 455
Anderson, L. E., 346
Anderson, P. J., 446
Anderson, P. W., 29, 102
Anderson, R. B., 280
Anderson, R. C., 15
Anderson, W., 100
Anderson, W. A., 98
Andon, R. J. L., 64
Andrew, E. R., 113, 367, 368
Andrews, E. B., 326
Andrews, L. J., 2, 238
Andric, N., 171
Andrussow, L., 276
Angell, C. L., 350
Angul, N. N., 451
Anno, T., 328
Anokhin, V. L., 163
Antonova, I. N., 143
Antonowicz, K., 103
Aoki, K., 166, 457
Apurina, M. S., 4
Arai, T., 256, 257, 260, 323
Araki, G., 253, 254
Archer, R. J., 446
Ard, W. B., 39, 40
Arden, T. V., 168
Ardon, M., 228
Arendale, W. F., 346
Arends, C. A., 348
Arganbright, R. P., 234
Argenstein, H., 51
Argersinger, W. J., Jr., 157-78; 49, 163
Argyres, P. N., 80
Ariya, S. M., 3, 4, 5, 6
Armour, A. G., 289
Armstrong, A. M., 226
Armstrong, D. E., 170
Arnold, G. P., 33
Arnold, J. E., 443
Arnold, J. R., 252
Aroeste, H., 348, 382
Aron, W. A., 151
Arp, V., 83, 104
Arthurs, A. M., 322
Arvia, A. J., 49
Aschenbrand, L. M., 125, 322
Ashmore, P. G., 218
Asperger, S., 224, 235
Asprey, L. B., 170
Assarsson, L. O., 225
Asselineau, J., 170
Aston, J. G., 11, 107, 451
Aten, A. H. W., Jr., 134
Atkins, K. R., 32, 34
Aubertin, C., 134
Aubrey, J. E., 77
Audubert, R., 440
Augenstine, L. G., 458
Auzins, P., 110, 114
Averbach, B. L., 85
Averbuch, P., 102
Aveston, J., 169
Axworthy, A. E., Jr., 217
Ayalon, P. H., see Hirsch-Ayalon, P.
Azbel, M. Ya., 77, 105

B

Baba, H., 236
Babb, S. E., Jr., 329
Babicky, A., 1[illegible]
Bac[illegible]ella, A. L., 51
Bach, N. A., 144
Backès, M., 9
Bacon, G. E., 83
Baddeley, G., 303
Bader, F., 408
Badger, R. M., 350
Baelde, A., 108
Bafna, S. L., 171
Bagdasar'yan, Kh. S., 131
Bagguley, D. M. S., 85, 93
Bagotskala, I. A., 143
Bahena, R. C., see Castillo-Bahena, R.
Bahr, C., 161
Bailar, J. C., Jr., 229
Bailey, A. I., 454
Bailey, G. C., 265
Bainbridge, K. T., 412
Bak, B., 342, 344
Baker, A. N., 350
Baker, E. B., 101, 114
Baker, F. B., 225
Baker, J. M., 84, 112
Baker, J. W., 293, 296
Baker, M. C., 457
Balazs, E. A., 148
Baldock, R., 207

Bale, W. D., 50
Balescu, R., 66
Baley, L. G., 456
Ballantine, D. S., 133, 161
Balog, J., 170
Banerjea, D., 229
Banewicz, J. J., 8
Banks, R. E., 63
Banks, W. H., 446
Barany, R., 6
Barbanel, Y., 6
Bardeen, J., 27, 28, 29, 30, 85, 104, 403, 406
Bardwell, D. C., 127
Barelko, E. V., 144
Barker, E. F., 371
Barker, J. A., 67
Barker, W. A., 103
Barnard, A. J., 61
Barnes, R. G., 289
Barnet, H. N., 457
Barr, N. F., 135, 138, 140, 150
Barr, W. E., 224
Barrer, R. M., 158, 452
Barret, P., 3
Barron, T. H. K., 80
Barrow, G. M., 253
Barrow, R. F., 316, 317, 318, 319, 321, 326, 328
Barrus, C. A., 344
Barry, W. T., Jr., 211
Bartell, F. E., 448
Bartell, L. S., 362, 363, 364, 448
Barth, C. A., 321
Bartholomay, H., Jr., 298
Bartlett, P. D., 232
Barton, J. L., 3, 6
Barton, R. J., 5
Bascombe, K. N., 304
Basiński, A., 169
Baskett, A. C., 132
Basolo, F., 229
Bassani, F., 323
Bassett, G. A., 86
Bastiansen, O., 360, 362, 363, 373
Bateman, J. B., 458
Bates, D. R., 322
Bates, R. G., 49
Battino, R., 62
Bauchez, R., 412
Baudler, M., 346
Bauer, S. H., 207, 361, 362
Bauerle, J. E., 87
Bawn, C. E. H., 228
Baxendale, J. H., 139, 147, 227
Baxter, J. F., 294
Bayer, A. G. F., see Farbenfabriken Bayer, A. G.
Bayles, J. W., 298
Bazley, N. W., 207
Beachell, H. C., 346
Beasley, J. K., 179
Beattie, I. R., 160
Becher, P., 440
Beck, L. K. H. von, 289
Becker, E. D., 64, 347, 350
Becker, G. W., 190
Becker, J. A., 440
Becker, W. E., 230
Beckett, M. C., 238
Beckmann, R. B., 269
Beeler, R., 112
Beenakker, J. J. M., 41, 58, 60
Beg, M. A., 442
Begun, G. M., 345
Behrendt, D. R., 82
Behringer, R. E., 104
Bein, K., 426, 427, 430
Bekeshko, N. A., 105
Belitz, H. D., 170
Bell, E. E., 344
Bell, R. P., 222, 231, 298, 304
Bellamy, L. S., 290
Bellemans, A., 60, 65, 67, 68
Belynsky, V. A., 151
Bénard, J., 86
Bender, M. L., 225, 232, 304
Bendt, P. J., 33
Bénê, G. J., 101, 112
Benedek, G. B., 409
Benedict, W. S., 345, 348, 349
Benesi, H. A., 266
Benjamin, L. E., 294
Benjamins, E., 2
Benkeser, R. A., 289
Bennett, J. E., 108, 111
Bennett, S. J., 159
Benoist, S., 316
Benoit, H., 114
Bensasson, R., 131
Benson, G. C., 76, 450, 451, 456
Benson, G. W., 450
Benson, S. W., 8, 208, 217, 266
Bent, H. A., 16, 352
Ben-Yair, M. P., 10
Berg, G. J. van den, 83
Berg, W. T., 80
Berge, J. W., 183
Bergenlid, U. M., 5
Bergeon, R., 58
Berger, C., 47
Berger, S. B., 99
Berger, S. T., 222
Berglund-Larsson, U., 225
Berko, S., 78, 79
Berkowitz, J., 4, 5, 14
Berliner, E., 236, 238
Berman, R., 402
Bernal, M. J. M., 403
Bernard, L. de, 445
Bernas, A., 131
Bernier, J. P., 151
Bernstein, H. J., 2, 98, 100, 346
Bernstein, R. P., 213
Bernstein, W., 123
Berry, C. E., 443
Berry, R. S., 259, 318, 320, 346
Bersohn, R., 369
Berzins, T., 449
Bethke, G. W., 345
Bhagat, S. M., 39
Bhar, B. N., 100
Bhatia, A. B., 322
Bhattacharya, A(bani) K., 442
Bhattacharya, A(mal) K., 442
Bichsel, H., 151
Bickel, A. F., 289
Bickmore, J. T., 147
Bidinosti, D. R., 2
Biechler, S. S., 232, 299
Bielański, A., 268
Bielecki, J., 421
Biermann, W. J., 2
Biggs, A. J., 49
Biggs, M. S., 279
Bijl, D., 107
Bijvoet, J. M., 436
Bikerman, J. J., 450
Biller, H., 433
Billmeyer, F. W., Jr., 179
Bingel, W., 257, 322
Bingen, R., 60
Biondi, M. A., 29
Biot, M. A., 193
Birch, F., 396, 403
Birchenall, C. E., 85, 86
Birkhimer, E. R., 265
Bitiukov, V. D., 144
Bjork, R. L., 79
Blacet, F. E., 211, 307
Blackburn, A., 449
Blackman, M., 34
Blaine, L. R., 345
Blaise, J., 114
Blakewood, C. H., 36
Blamont, J. E., 113
Blanchard, L. P., 307
Blanchet, R., 159
Blanck, M., 169
Bland, D. R., 193
Blank, M., 446
Blanquet, P., 170
Blatt, F. J., 80, 81
Blatt, J. M., 29
Blau, E. J., 346
Blau, H. H., Jr., 345
Bleaney, B., 111
Blevins, G., 29
Bloch, F., 93, 94
Bloch, J. M., 158
Block, F., 298
Blocksma, A. H., 159
Bloembergen, N., 96, 97,

102, 111
Blokker, P. C., 447
Bloksma, S. H., 441
Bloom, H., 3, 6
Bloom, M., 95
Bocchieri, P., 387
Bockris, J. O'M., 7, 10
Bodganov, V. S., 127
Bodin, M. B., see Buyle-Bodin, M.
Boer, J. de, 38, 39, 381, 382
Boer, J. H. de, 265, 440
Bogle, G. S., 110
Bogoliubov, N. N., 29
Bogolyubov, N., 380
Bohm, D., 75
Bohm, H., 29
Boksha, S. S., 400
Bolto, B. A., 239, 289
Boltzmann, L., 389
Bommel, A. J. van, 436
Bömmel, H. E., 77
Bommel, W. P., 29
Bond, G. C., 274
Bond, R. A. B., 322
Bond, W. L., 80
Bonet-Maury, P., 130, 139
Bonnell, L. S., 11
Bonner, O. D., 158, 163, 169
Bonner, T. G., 301, 302, 304
Bonner, W. A., 202, 303
Bonner, W. H., 236, 295
Boord, C. E., 300
Boquet, F. L., 132
Bor, G., 4
Borchardt, H. J., 13
Bordeau, J. J., 450
Bordwell, F. G., 235, 289, 293
Borel, J. P., 114, 442
Borisov, V. T., 86
Born, M., 424, 428
Bortner, T. E., 123
Bose, A. N., 446, 457
Bosman, A. J., 84, 86
Bothner-By, A. A., 99
Bothner-By, C. T., 148
Botinck, W., 86
Bottini, A. T., 239
Bottomley, G. A., 110
Bouby, L., 129
Boudart, M., 265, 272
Bourdais, J., 167
Boutan, P. J., 293
Bovey, F. A., 440
Bowden, F. P., 449, 454
Bowen, H. J. M., 373
Bower, V. E., 49
Bowers, K. D., 108, 114
Bowman, A., 444
Bowman, R. E., 5, 6
Bowyer, F., 301
Boyd, D. R. J., 374
Boyd, R. H., 304, 306
Boyle, J.W., 136, 145
Bozorth, R. M., 30
Brabets, R. I., 2
Brackett, E., 2
Bradley, R. S., 446, 454
Bradshaw, F. J., 87
Brady, A. M., 148
Brady, J. D., 236, 295
Brager, A.Kh., 151
Brailsford, A. D., 77
Branch, G. E. K., 288, 289, 292, 298
Brand, J. C. D., 324, 325, 330
Brandenberger, S. G., 302
Brandt, I. V., 404
Brandt, N. B., 404, 409
Brandt, W., 182, 194
Braun, E., 418, 426, 434
Braun, E. A., 410
Bray, P. J., 289
Brealey, G. J., 329
Breck, W. G., 47
Breslow, R., 308
Bretscher, M. M., 207
Brewer, B., 327
Brewer, D. F., 39, 41
Brewer, L., 2
Breyer, H., 449
Bridger, G. W., 265
Bridgman, P. W., 396, 397, 398, 401, 402, 405, 406, 408
Brieux, J. A. L., 296
Briggs, D. K. H., 9
Brimm, E. O., 3
Briner, E., 8
Brinkmann, G., 161
Briscoe, C. V., 80
Brissonneau, P., 84, 86
Brittin, W., 95, 387, 453
Britton, D., 203
Broadly, J. S., 350
Brock, F. H., 290
Brockhouse, B. N., 80, 82
Brocklehurst, R. E., 2
Brockway, L. O., 360, 362, 363, 364
Brodasky, T. F., 350
Bordnyan, J. G., 194, 195, 196
Brody, O. V., 48
Broeder, J. J., 277, 452
Broersma, S., 95
Broida, H. P., 13, 316, 321, 327
Brokaw, R. S., 392
Brommer, P. E., 84, 86
Brooke, D. G., 308
Brooks, B. T., 300
Brooks, H., 407
Brossel, J., 113
Broucentseva, C. A., 138
Brout, R., 73, 74, 75, 389, 390
Brovetto, P., 105
Brown, A. S., 45
Brown, B., 396
Brown, D. W., 132
Brown, G. M., 190
Brown, H. C., 236, 237, 289, 291, 294, 295, 298, 300
Brown, H. P., 160
Brown, I., 64
Brown, L. O., 125
Brown, R. M., 101
Brown, S. A., 49
Brown, T. H., 289
Brown, T. L., 349
Brown, W. B., 65, 66, 67
Browne, M. E., 83, 104
Brubaker, C. H., Jr., 49, 226
Bruce, C. R., 101
Brueckner, K. A., 39, 73, 74, 75, 386
Bruhat, G., 423
Bruice, T. C., 232
Brumberger, H., 455
Brun, E., 114
Brunauer, S., 450
Brunisholz, G., 170
Bruun, H. H., 446
Bucay, B., 163, 170
Buchanan, D. L., 170
Buck, D. A., 30
Buckingham, M. J., 27-44; 29, 30, 37, 38, 39, 41
Buckingham, R. A., 252
Buckles, R. E., 351
Buckley, H. E., 366
Budzinski, E. E., 79
Bueche, A. M., 182
Bueche, F., 182, 183, 184, 187, 188, 190, 193, 194
Bueso-Sanllehi, F., 328
Buff, F. P., 384, 444
Buist, G. J., 298
Bulewicz, E. M., 3, 13
Bulgrin, V. C., 228
Bultitude, F. W., 158
Bundy, F. P., 401
Bunnett, J. F., 239, 301
Bunton, C. A., 225, 231, 233, 304, 306
Burd, L. W., 114
Burke, R. F., 269
Burnelle, L., 328
Burnham, H. D., 373
Burr, J. G., 130
Burske, N. W., 234
Burton, M., 127, 129, 136, 146
Burtt, B. P., 126
Burwell, R. L., Jr., 233, 265, 272
Busch, N., 169
Buss, J. H., 8
Butler, E. A., 232
Butler, E. T., 202
Butler, N., 392

Butler, S. T., 29
Butta, E., 190, 193
Buttery, R. G., 307
Butuzov, V. P., 3, 5, 11, 396, 400
Buyle-Bodin, M., 101
By, A. A. B., see Bothner-By, A. A.
By, C. T. B., see Bothner-By, C. T.

C

Cabot, C., 147
Cady, G. H., 62, 63
Cady, H. H., 168
Cagle, F. W., Jr., 402
Callaway, J., 75
Callis, C. F., 98
Callomon, J. H., 328, 344
Callow, D. S., 228
Calvert, J. G., 209
Calvert, R., 53
Calvet, E., 1
Calvin, M., 107, 108, 288, 289, 292, 298
Camp, M., 446
Campbell, A. N., 47, 48
Campbell, D. H., 457
Canady, W. J., 12
Canjar, L. N., 269
Cannell, L. G., 238, 302
Capon, B., 239
Carassiti, V., 224
Careri, G., 382
Carlsmith, L. A., 301
Carr, C. W., 168
Carr, E. M., 148
Carroll, P. K., 318
Carson, T. R., 322
Carter, C., 252, 332
Carter, R. S., 80
Cartledge, G. H., 4
Casimir, H. B. G., 32
Cassidy, H. G., 158, 161
Castillo-Bahena, R., 78
Catsiff, E., 186, 190, 192
Cerf, R., 186, 194
Cernuschi, F., 381, 382
Černý, Č., 11
Cerny, L. C., 167
Chaikooskaya, I. V., 442
Challis, L. J., 39
Chalyi, V. P., 442
Chambers, J. F., 47
Chambers, R. G., 77
Chandhuri, N., 307
Chandler, C. D., 247
Chandler, R. C., 150
Chandrasekhar, S., 246
Chang, J., 129
Chang, T. S., 347
Chang, W., 221
Channen, E. W., 451
Chapin, D. S., 270
Chapiro, A., 129, 132, 133
Chapman, A. C., 105
Chapman, N. B., 239
Charlesby, A., 132
Chase, C. E., 32, 34
Chateau, H., 4
Chatt, J., 229
Chatterjee, A., 159
Chatterji, A. C., 442
Chaundy, T. W., 66
Chaussidon, J., 165
Chektman, A. L., 147
Chen, W. K. W., 133, 161
Chernick, C. L., 8
Chernova, A. I., 144
Chervinskaya, O. V., 162
Chessick, J. J., 447, 448, 449, 453
Chester, P. F., 399, 404
Chestnut, D. B., 105, 107
Chidester, J. L., 170
Chien, J. C. W., 203
Child, W. C., 189, 190
Childs, W. H. J., 371
Chilitz, G., 212
Chin, J. H., 454
Chkenkely, A. Z., 4
Chloupek, F., 304
Chmiel, C. T., 304
Cho, C. W., 321
Choppin, G. R., 163, 169
Chou, A., 454
Chou, C. H., 59
Chowles, A. E., see Englert-Chowles, A.
Christensen, D., 342, 344
Christman, D. R., 151
Chu, C. M., 455
Chu, T. L., 51
Chuck, W., 390
Chupka, W. A., 4, 5, 14
Churchill, S. W., 455
Ciola, R., 16
Claesson, S., 64
Clarebrough, L. M., 85
Clark, A., 265
Clark, D. J., 304
Clark, G. C., 455
Clark, H. C., 4
Clark, H. M., 346
Clark, S. P., Jr., 400
Clarke, E. M., 319
Clarke, H. B., 7, 8
Clarke, J. K., 59
Clarke, J. T., 161, 164
Clayfield, E. J., 445, 448
Clayton, J. M., 302
Clever, H. L., 62
Clogston, A. M., 109
Clouston, J. G., 327
Clusius, K., 4, 327
Coats, F. H., 15
Cobble, J. W., 4
Cochran, E. L., 130
Cochran, G. W., 170
Cochran, J. C., 224
Cochrane, W., 364
Cockbain, E. G., 447, 458
Cockett, A. H., 61
Coes, L., Jr., 396, 402, 403
Cohen, A. D., 324
Cohen, D., 226
Cohen, E. G. D., 382, 383
Cohen, M., 31, 33, 85
Cohen, M. H., 110
Cohen, S. G., 289
Cohen, S. R., 50
Cole, L. J., 164
Cole, T., 108
Coleman, J. S., 167, 170, 457
Coleman, R. V., 84
Colichman, E. L., 131
Collin, J., 7, 15, 210, 351
Collins, J. J., 162
Collins, R. B., 439
Collins, R. F., 171
Collins, R. L., 114
Collinson, E., 132, 137, 138
Collman, J. P., 351
Collyns, B. G., 133
Combrisson, J., 104
Commoner, B., 108
Compaan, K., 85
Compton, L. A., 396
Condit, R. H., 86
Condon, E. U., 428
Connick, R. E., 4, 98, 168
Connor, J. E., Jr., 265
Conradi, J. J., 106
Constable, R. F. S., see Strickland-Constable, R. F.
Cook, C. L., 327
Cook, D., 3, 64
Cook, H. D., 445
Cook, M. A., 410, 412
Cook, M. W., 62
Cook, R. E., 8
Cooley, J. P., 371
Coolidge, A. S., 247
Coon, J. B., 325
Coope, J. A. R., 316
Cooper, G. D., 289
Cooper, L. N., 28, 30
Cooper, R. E., 168
Čopič, M., 194
Copp, J. L., 64
Coppinger, G. M., 227
Corak, W. S., 29
Corenzwit, E., 29
Corey, E. J., 238
Corey, R. B., 366
Corliss, L. M., 83
Cormack, D. V., 151
Cornelius, J. A., 53
Corson, B. B., 303
Cory, J., 170
Costain, C. C., 372
Cottin, M., 136, 142, 144
Cotton, A., 419
Cotton, F. A., 4, 97
Cottrell, T. L., 57
Coughlin, J. P., 6

Coulson, C. A., 348
Couper, A., 457
Courtoy, C. P., 345
Cousins, L. R., 346
Coussemant, F., 304
Couture, A. M., 51
Covington, A. K., 49
Cowley, J. M., 365, 366, 367
Cox, J. D., 64
Cozzi, D., 228
Craig, D. N., 3, 48
Craig, D. P., 333
Craig, P. P., 35
Craig, R. G., 448
Craig, R. S., 3, 5, 6
Cram, D. J., 233, 235, 307
Cramer, F., 411
Cratty, L. E., Jr., 269
Crawford, B., Jr., 206, 347, 348, 352
Crawford, R. J., 302
Crawford, V. A., 339-59
Criddle, D. W., 447
Cristol, S. J., 234
Crittenden, E. C., 30
Cross, S., 224, 296
Crouzat-Reynes, G., 166
Crowe, J. W., 30
Crowell, A. D., 451
Cruickshank, E. H., 163
Crützen, J. L., 64
Csányi, L. J., 228
Culvahouse, J. W., 104, 114
Culver, R., 452
Cunningham, B. B., 5
Cunningham, J. R., 191
Cunningham, R. E., 268
Curnutte, B., 347
Curran, C., 351
Curtin, D. Y., 289, 302
Curtiss, C. F., 379-94; 382, 391
Cutillas, M. J., 446
Cutler, D., 113
Cvetanović, R. J., 269
Cyvin, S. J., 363

D

Daane, A. H., 5
Daen, J., 205
Dailey, B. P., 339, 341, 342, 343, 375
Dainton, F. S., 7, 132, 137, 138, 139, 213, 227
Dalby, F. W., 326
Dale, W. M., 148
D'Alelio, G. F., 161
Dalgarno, A., 322
Dallwigk, E., 8
Daly, P. J., 318
Danby, C. J., 59, 209
Danielian, A., 81
Daniels, F., 225
Daniels, M., 147, 149
Danon, J., 168
D'Ans, J., 228
Danti, A., 7
Darby, P. W., 281
Darmois, G., 51
Darwent, B. deB., 217
Das, P. K., 51
Das, T. P., 94, 102, 261, 262
Dash, J. G., 38, 39
Datta, S. P., 7, 8
Daudel, P., 412
Daudel, R., 412
Daunt, J. G., 31, 38, 39, 40, 41
Davankov, A. B., 161
David, M. M., 163
Davidson, A. W., 163
Davidson, N., 203, 208, 307
Davies, E. N., 50
Davies, J. T., 444, 445, 447, 459
Davies, M., 350
Davies, T., 5, 6, 11
Davis, C. F., 111
Davis, J. V., 148
Davis, M. M., 49
Davis, R. J., 269
Davis, T. W., 134, 144
Davydov, A. T., 168, 171
Davydova, R. Z., 168
Dawson, L. R., 47
Day, A. R., 224
Day, J. H., 8
Day, J. N. E., 231
Day, K. J., 447
Day, M. J., 147, 150
Dayhoff, E. S., 84
Deacon, R. F., 449
Dear, D. J. A., 448
Deason, W. R., 443
de Bernard, L., see Bernard, L. de
De Boer, E., 93, 106
de Boer, J., see Boer, J. de
de Boer, J. H., see Boer, J. H. de
De Bruyn, P. L., 441
De Bruyne, N. A., 450
Debus, G. H., 47, 48
Debye, P., 455
Deeley, C. M., 369
Deeley, C. W., 193
Deffet, L., 57
Degener, E., 231
de Gennes, P. G., see Gennes, P. G. de
DeGraaf, D. E., 346
DeGraaff, W., 1
de Groot, S. R., see Groot, S. R. de
De Heer, F. J., 125
Dehmelt, H. G., 113
Dejak, C., 224
de Jonge, J., see Jonge, J. de
Dekeyser, W., 86
de Klerk, D., see Klerk, D. de
De la Gueronnière, E., 134
Delahay, P., 449
De la Mare, P. B. D., 225, 237, 294, 301
de Launay, J., see Launay, J. de
Dell, P. A., 3
De Maine, M. M., 65
De Maine, P. A. D., 65
Demeny, M., 458
Demerseman, P., 149
De More, W. B., 307
DeMumbrum, L. E., Jr., 159
den Berg, G. J. van, see Berg, G. J. van den
Denda, S., 86
Den Herder, M. J., 269
Dennison, D. M., 340
Deno, N. C., 287-314; 231, 233, 294, 300, 301, 304, 305, 306
de Nobel, J., see Nobel, J. de
den Tempel, M. van, see Tempel, M. van den
Depp, E. A., 171
DePuy, C. H., 235, 289
de Quevedo, J. L. G., see Garcia de Quevedo, J. L.
Derêń, J., 268
Derjaguin, B. V., 441, 446, 449, 450, 453
der Lugt, W. Van, see Van der Lugt, W.
De Roos, A. M., 134
Dershowitz, S., 107
der Waals, J. H. van, see Waals, J. H. van der
Des Cloizeaux, J., 79
Desloge, E. A., 103
DeSorbo, W., 11, 87
Desty, D. H., 439
Deuel, H., 159, 161
Devereux, J. M., 279
Deviney, M. L., Jr., 7
Devonshire, A. F., 381
de Vries, A. J., see Vries, A. J. de
de Vries, G., see Vries, G. de
Devyatykh, G. G., 11
Dewar, M. J. S., 236, 237, 259, 297, 300
de Wette, F. W., see Wette, F. W. de
Dewhurst, H. A., 127
De Witt, T. W., 188, 189, 194
de Wolf, E., see Wolf, E. de
Diaper, J., 7

Dibeler, V. H., 2, 14
Dickens, J. E., 229
Dickenson, A. F. T., see Trotman-Dickenson, A. F.
Dickson, A. D., 348
Diebel, R. N., 16, 49
Diehl, P., 99
Dieke, G. H., 324, 372
DiGiorgio, V. E., 325
Dignam, M., 170
Dingle, R. B., 31
Dintenfass, L., 449
Disselnkotter, H., 308
Di Stefano, M., 228
Ditter, J. F., 5
Dixon, R. N., 345
Djerassi, C., 437
Djurfeldt, R., 163
Dmitriev, M. I., 123
Dobrov, W., 114
Dobry, A., 9, 167
Dodd, R. E., 64, 202
Dodson, R. W., 226
Dodsworth, P. G., 318
Doede, C. M., 450
Doering, W. von E., 8, 12, 307, 308
Dokoupil, Z., 60
Dole, M., 132
Dolin, P. I., 138, 145
Domrachev, G. A., 107
Donaldson, D. M., 136, 137
Dondes, S., 125, 126
Donovan, R. E., 345
Dood, R. E., 346
D'Or, L., 351
Dorain, P. B., 111, 114
Doucet, Y., 6
Douglas, A. E., 316, 317, 319, 320, 324, 327
Doujenkov, V. I., 145
Dourdon, J., 108
Douslin, D. R., 8
Dove, D., 151
Dowden, D. A., 265, 270
Dowling, J. M., 7, 347
Downie, A. R., 316
Dows, D. A., 350
Drain, L. E., 369
Drake, M. P., 148
Drake, W. D., 9
Dranoff, J., 163
Dray, S., 457
Dresselhaus, G., 77
Dressler, K., 325, 332
Drickhamer, H. G., 399
Drowart, J., 3, 4, 14, 319
Drummond, A. Y., 233
Drysdale, J. J., 100
Duane, W., 126
Duff, R. E., 410
Duflo, M., 142, 143
Duke, F. R., 54
Dulin, C. I., 456
Duncan, A. B. F., 251
Duncan, J. F., 225
Dunford, H. B., 2
Dunitz, J. D., 76
Dunkle, F. B., 306
Dunlap, R., 63
Dunmur, I. W., 83
Dunn, A. S., 232
Dunn, F., 232, 289
Dunn, T. M., 225, 301
Durham, K., 446
Durie, R. A., 318, 320
Durup, J., 133
Duval, C., 352
Duvall, G. E., 412
Dyer, A., 160
Dykman, I. M., 441

E

Eaborn, C., 224, 289, 294, 300
Eades, R. G., 368
Eastham, A. M., 233, 301
Ebel, J. P., 169
Ebert, G., 114
Ebert, L., 401
Ebert, M., 149
Echte, A., 65
Ecke, G., 302
Eckert, M., 149
Eckhardt, W., 344
Edelman, S., 191
Edeskuty, F. J., 40
Edgell, W. F., 341, 344, 345, 346
Edison, D. H., 224
Edward, J. T., 232, 305
Edwards, M. H., 32, 37
Edwards, T., 233
Edwards, T. H., 345
Egan, E. P., Jr., 2, 6
Egawa, H., 161
Eggers, D. F., Jr., 348
Egorov, A. M., 16
Egupov, Y. V., 10
Ehrman, J. B., 82
Eichborn, J. L. von, 439
Eirich, F. R., 440
Eischens, R. P., 278, 452
Eisen, F. H., 85
Eisenstein, J. C., 111
Eisner, M., 114
Eiszner, J. R., 308
Eitel, M. J., 167
Ekstein, H., 387
Ekwall, P., 446, 457
Elamayen, M. S. A., see Abu Elamayen, M. S.
Eldjarn, L., 8
Eley, D. D., 439, 457, 458
Elkins, H. B., 434
Elliott, D. F., 103
Elliott, N., 83
Elliott, R. J., 82, 113
Ellis, M. E., 164
Ellis, S. G., 86
Ellison, A. H., 446
Elovich, S. Yu., 164
Elschner, B., 107
Elworthy, P. H., 459
Emeléus, H. J., 4
Emerson, W. W., 159
Emmett, P. H., 265, 280, 281
Enderby, J. A., 452
Endow, N., 217
Engel, P., 222
Englert-Chowles, A., 65, 67
English, J., Jr., 161
Epel, J. N., 454
Epstein, L. F., 185
Epstein, M. B., 457
Epstein, S. I., 547
Erb, E., 114
Erben, M. T., see Talat-Erben, M.
Erdös, E., 11
Erickson, H., 265
Erickson, R. E., 351
Erlandssan, G., 344
Ermolenko, N. F., 53
Erschler, B. V., 142
Eton, G. A. H., 443
Etter, R. M., 308
Ettlinger, M. G., 308
Euranto, E., 232
Evans, F. W., 7
Evans, H. D., 295
Evans, W. L., 294, 300
Evans, W. M., 411
Evans, W. P., 446
Everest, D. A., 168, 169
Everett, D. H., 64, 452
Evering, B. L., 270
Ewald, A. H., 58, 222
Extermann, R. C., 112
Eyring, H., 201, 202, 206, 207, 296, 381, 382, 402, 428, 452

F

Fabre, C., 237
Fahn, R., 160
Fain, J., 259
Fainberg, A. H., 222
Fairbank, H. A., 27-44; 32, 38, 39, 40
Fairbank, W. M., 27-44; 29, 37, 39, 40, 60
Fairbrother, D. M., 7
Falk, M., 346
Falkenhagen, H., 444
Fallab, S., 169
Fano, L., 346, 347
Farbenfabriken Bayer, A. G., 161
Farnsworth, H. E., 265, 364
Farrar, T. C., 100, 101
Farren, A. A., 157, 158
Fassel, V. A., 351
Fateley, W. G., 347
Faulkner, J. E., 250

Fava, A., 221-44; 107
Favstova, V. N., 447
Feakins, D., 50, 51
Feates, F. S., 51
Federighi, T., 87
Feher, G., 93, 96, 107, 114
Felkin, H., 289
Feller, M., 270
Felsing, W. A., 7
Feltham, R. D., 107
Fensham, P. J., 265
Ferguson, E. E., 65, 349, 351
Ferradini, C., 138, 141
Ferrell, R. A., 74, 78
Ferroni, S., 105
Ferry, J. D., 179, 183, 184, 187, 188, 189, 190, 191, 192, 193, 194
Fersmann, A. von, 402
Fessenden, R. W., 97
Few, A. V., 459
Feynman, R. P., 31, 32, 33, 35, 38
Fick, E., 111
Ficken, G. E., 169
Field, E., 270
Field, F. H., 216
Fields, E., 445
Fields, P., 111
Figurovskii, N. A., 443
Filbert, R. B., Jr., 5, 6
Filbey, A. H., 302
Finbak, C., 360
Fine, J., 342, 344
Finke, H. L., 8
Firestone, R. F., 126
Firsow, V. G., 142
Fischer, A., 289
Fischer, A. K., 4
Fischer, E. O., 102
Fischer, J., 2, 4
Fischer-Hjalmars, I., 332
Fish, R. F., 131
Fishman, M. M., 440
Fisk, M. D., 404
Fitch, R. A., 399
Fitzgerald, E. R., 191, 192
Fixman, M., 387
Flajšman, F., 442
Flenglas, S. N., 3, 15
Fletcher, W. H., 345, 346
Fletcher, W. P., 189, 190
Flis, I. E., 52
Flitcroft, T., 7, 8, 12
Flood, H., 4, 16
Flowers, R. H., 231
Flynn, J. H., 221
Flynn, J. J., Jr., 225
Fock, W., 64
Fok, M. V., 114
Foley, H. M., 260
Folkins, H. O., 265
Follenius, M., 163
Foner, S., 84
Ford, H. W., 217
Foreman, J. K., 169
Forrester, A. T., 29
Forsberg, P. W., 408
Forsling, W., 100
Förster, T., 315
Foster, J. F., 166, 457
Foster, M. R., 114
Fowler, J. F., 133
Fowles, G. W. A., 108
Fox, H. W., 445
Fox, T. G., 183, 184
Fraenkel, G. K., 93
Francis, A. W., 11
Francis, S. A., 452
Franck, E. U., 2, 58
Francois, G., 171
Frankenburg, W. G., 439
Franklin, J. L., 216, 267
Franzen, V., 308
Franzosini, P., 4
Fraser, M. J., 458
Frazer, M. J., 230
Frederick, M., 167
Freeman, R., 98
Freiling, E. C., 164
French, C. M., 48, 50, 51
Freudenberg, K., 428, 436
Freund, H. E., 228
Freund, T., 276
Frey, F. W., 8
Frey, H. M., 216, 307, 308
Frey, S. W., 224
Freyberger, W. L., 441
Friauf, R. J., 85
Fricke, H., 142, 145
Friedman, A., 111
Friedman, H. L., 51, 60
Friedman, L., 15, 207
Friedman, R. H., 323
Friedmann, H., 74
Friend, J. P., 339, 342, 375
Frilette, V. J., 166
Frilley, M., 130
Frisch, H. L., 384, 443, 447
Frisch, N. W., 162
Fristrom, R. M., 342, 344, 374
Fritz, J. J., 3, 107
Froemsdorf, D. H., 289
Frohlich, H., 27, 28, 29
Frolov, N. Ya., 230
Frost, A. A., 253
Frost, D. C., 316, 319
Frow, F. R., 7
Frumkin, A., 449
Frumkin, A. N., 53
Fuger, J., 170
Fujimoto, M., 171
Fujino, K., 191
Fujita, H., 187, 188, 189, 193
Fujita, J., 351
Fujiwara, S., 101, 133
Fukuchi, M., 75
Fukuda, N., 73, 74, 75
Fukui, K., 236
Fuller, G. S., 114
Fuller, M. E., 233
Fullman, R. L., 76
Fumi, F. G., 76, 323
Funabashi, K., 252
Fuoss, R. M., 45, 46, 47, 48, 193
Fürth, R., 411
Fuschillo, N., 1, 101, 102, 133

G

Gaber, M., 404
Gabriel, J. R., 110
Gabrielson, G., 171
Gagarinsky, U. V., 5
Gaidukov, Yu. P., 404
Gaines, G. L., Jr., 159
Galatry, L., 64
Galiba, H., 228
Galinker, V. S., 52
Gallagher, G. A., 224
Gallup, G. A., 308, 349
Galt, J. K., 84
Gamble, E., 444
Gammel, J. L., 39
Garbisch, E. W., Jr., 239, 301
Garcia de Quevedo, J. L., 114
Garfunkel, M. P., 29
Garif'yanov, N. S., 105, 114
Garland, C. W., 80, 352
Garner, A. Y., 308
Garner, W. E., 265, 439
Garrett, E. R., 232
Garrison, W. M., 123
Garten, V. A., 160
Garvin, D., 201-20
Gary, R., 49
Gaskins, F. H., 194, 195, 196
Gatehouse, B. M., 351
Gatto, F., 87
Gedenk, G., 170
Geher, G., 109
Gehman, W., 203
Geiseler, G., 2
Geissler, D., 102
Geiszler, A., 232
Gelblum, E., 232, 289
Gell-Mann, M., 73, 74
Genensky, S. M., 79
Gennes, P. G. de, 82
Gent, A. N., 189, 190
Gentili, R., 159
Genzel, L., 344
George, P., 4, 108
Geraismenko, V. I., 105
Gerasimov, Y. I., 4, 16
Gere, E. A., 107, 114
Gerovich, M. A., 53
Gersch, H. A., 82, 385

Gersh, U., 114
Gerstein, B. C., 5
Gerstenkorn, S., 114
Gerven, L. van, 109
Geschwind, S., 109
Geselle, P., 402
Gesser, H., 209, 211, 216
Getskina, L., 6
Gevantman, E. H., 150
Gevantman, L. H., 127
Ghose, T., 102
Ghosh, S., 228
Ghosh, S. K., 102
Giachetti, E., 279
Giacometti, G., 221
Gibb, T. R. P., Jr., 5
Gibson, J. F., 108, 111
Giddings, J. C., 163
Giffee, J. W., 148
Giguere, P. A., 218, 346
Gilbert, E. E., 161
Gilbert, J. G., 210
Gilby, A. R., 459
Gilby, R. F., Jr., 289
Gill, S. J., 409
Gilles, P. W., 2
Gillet, W. A., 228
Gilmer, R. M., 2
Gilvarry, J. J., 401
Gilwood, M. E., 161
Ginnings, D. C., 5
Ginsburg, N., 371
Ginsburg, V. L., 29
Girifalco, L. A., 447
Gladel, Y. I., 158
Glasstone, S., 201, 206
Glauber, R., 361
Glazman, Y. M., 441
Gleason, E. H., 228
Glebashev, G. Ya., 113
Glegg, R. E., 133
Glick, R. E., 99, 299
Glicksman, M., 79
Glines, A., 133, 161
Glover, R. E., 29
Gnanapragasam, N. S., 238
Goates, J. R., 159
Goble, A. G., 65
Goddard, E. D., 456
Goering, H. L., 234
Gogarty, B., 412
Goland, D., 3
Gold, D. H., 167
Goldblatt, M., 345
Goldfarb, T. D., 351
Goldfinger, P., 212
Goldhagen, S., 9
Goldschmidt, V., 402
Goldsmith, M., 345
Goldstein, J. H., 259, 342, 344
Goldstein, L., 39
Goldstein, M., 455
Golikov, V. M., 86
Golomolzina, M., 6
Golub, M. A., 194
Golumbic, N., 280
Gomer, R., 440, 453
Gonikberg, M. G., 3, 5, 11, 321, 327
Gonzalez, O. D., 2
Good, B. J., 35
Good, R. J., 447
Goodban, A. E., 171
Goode, J. H., 131
Goode, J. M., 2
Goodman, B. B., 29
Goodman, L., 260, 333
Goodrich, F. C., 446
Gordon, A. R., 47, 48
Gordon, A. S., 206, 215, 216
Gordon, E., 203
Gordon, J. S., 3
Gordy, W., 29, 108, 109, 344, 371, 372, 375
Gore, H. K., 426, 430
Gore, P. H., 238, 301, 303
Gorin, E., 428
Gorter, C. J., 27, 32, 36, 83
Gosnell, R. B., 289
Gottlieb, M. H., 164
Gould, E. S., 303
Gourary, B. S., 84, 110
Gover, T. A., 47
Govindan, K. P., 161, 171
Grad, H., 390
Graf, P., 168
Graf, P. E., 203
Graham, D., 451, 453
Graham, D. M., 101
Graham, D. P., 449
Graham, J. R., 47, 48
Grahame, D. C., 449
Granato, A. V., 269
Grandine, L. D., 187, 188
Gränicher, H., 111
Grant, D. G., 9
Grant, M. S., 302
Gratch, S., 183, 184
Gratzer, W B., 321
Graven, W. M., 218
Graves, R. H., 47
Gray, A. P., 345
Gray, L. H., 123
Gray, P., 7, 8
Gray, T. J., 266
Graydon, W. F., 165
Grayson, M., 236, 295, 300
Grayson, W. F., 62
Green, L. C., 247
Green, M. B., 304
Greenberg, S. A., 3
Greene, E. F., 2, 3, 13, 124, 319
Greene, F. D., 235
Greenhalgh, E., 453
Greenhow, C. G., 263
Greenler, R. G., 352
Greenwood, N. N., 3, 10
Greer, A. H., 161
Grefsgard, B., 158
Gregor, H. P., 157, 164, 165, 167, 168
Gregory, N. W., 4
Grenier, G., 6, 7
Greyson, J., 451
Griem, H., 114
Griessbach, R., 158
Griffel, M., 5
Griffing, V., 207, 248
Griffith, J. S., 98
Griffith, R. H., 265, 269
Griffiths, J. E., 209
Griffiths, J. H. E., 84
Griffiths, V. S., 48, 53
Griggs, D. T., 397, 403
Grilly, E. R., 40
Grim, E., 165
Grimes, D. M., 4, 84
Grinberg, A. A., 227
Groot, S. R. de, 388
Grosch, E., 410
Gross, B., 133, 184, 192, 193
Gross, M. E., 8
Gross, P., 5
Gross, P. M., 62
Grosse, A. V., 13
Grovenstein, E., Jr., 225, 301
Groves, K. O., 226
Grummitt, W. E., 170
Grünbaum, E., 84
Grüne, A., 171
Grunwald, E., 51, 99, 231 233, 299, 305, 306
Guastalla, J., 448
Gubskaya, G. F., 52
Gudmundsen, C. H., 289, 304
Guenebaut-Thevenot, N., 3
Guenther, A. H., 345
Guerreschi, L., 221
Guggenheim, E. A., 17
Guinn, V. P., 276
Gullikson, C. W., 346
Gumbrell, S. M., 182
Gundry, P. M., 453
Gunn, S. R., 5
Gunning, H. E., 126
Gunnerson, E. M., 77
Günthard, H. H., 7, 114
Gunther, P. L., 402
Gupta, J., 170
Gupta, S. L., 167, 232, 441
Gurnee, E. F., 193
Gush, H. P., 349
Gutowsky, H. S., 100, 101, 102, 293, 369
Guttman, L., 73-92
Gwinn, W. D., 372

H

Haase, E. L., 75
Haase, R., 442

Haber, J., 268
Hackerman, N., 450
Hadwick, T., 231
Hahn, E., 95
Haines, R. L., 212
Haïssinsky, M., 141, 142 143
Haklenberg, C. G., see Niels-Haklenberg, C. G.,
Hale, D. K., 161
Haleem, M. A., 2
Hales, J. L., 8
Halevi, E. A., 225
Halford, J. O., 12, 380
Hall, G. R., 141
Hall, H. E., 36
Hall, H. H., 406
Hall, H. K., Jr., 297
Hall, H. T., 395-416; 396, 397, 398, 400, 401
Hall, W. K., 280, 281
Halpern, J., 226, 227
Halsey, G. D., Jr., 451
Halstead, P. E., 6
Halvarson, K., 225
Ham, G., 236
Ham, J. S., 188
Ham, N. S., 253
Hamann, S. D., 222
Hameka, H. F., 333
Hamer, W. J., 3, 48
Hamerschlag, A. H., 161
Hamill, W. H., 130
Hamilton, R. A., 57
Hamilton, W. C., 332, 362
Hammel, E. F., 41, 60
Hammett, L. P., 202, 288, 289, 292, 299, 305, 306
Hamming, R. W., 193
Hammond, G. S., 294, 307
Hanania, G. I. H., 4
Hancher, C. W., 171
Hancock, C. K., 289, 290
Handler, G. S., 252
Hanna, I. I., 81
Hanna, S. S., 79
Hanrahan, J., 130
Hansen, R. D., 449
Hansen, R. S., 449
Hansler, R. L., 344
Hanson, D. N., 62
Hanson, H., 349
Happ, H., 343
Haranath, P. B. V., 318
Harbottle, G., 226
Hardeman, G. E. G., 83, 96, 104
Harding, J. T., 108
Harding, S. W., 194
Hardwick, T. J., 139, 227
Hare, E. F., 448
Hare, W. F. J., 349
Hargreaves, M. K., 13
Harkness, A. L., 248
Harlen, S., 132
Harned, H. S., 49
Harper, A. F. A., 81
Harper, B. G., 62
Harper, R. C., 57
Harper, S. H., 308
Harris, E. G., 260
Harris, F. E., 162, 166
Harris, G. M., 230
Harris, J. D., 166
Harrison, A. G., 2
Harrison, D., 7
Harrison, J. C., 168, 169
Harrison, J. H., 168
Harrison, R. H., 7
Hart, E. J., 136, 142, 145, 150
Hart, E W., 83, 86
Harteck, P., 125, 126
Hartler, N., 168
Hartmann, H., 4, 48
Harvey, J. T., 225, 237, 301
Harwood, H. J., 161
Haseda, T., 96
Haselden, G. G., 61
Hashimoto, H., 86, 365
Hasino, T., 254
Hass, W. P. A., 83, 96, 104
Hassan, M., 237
Hassel, O., 360, 362
Hasseltrom, T., 148
Hässler, A., 171, 276
Hastings, J. M., 83, 362
Hastings, S. H., 8
Hatoyama, G. M., 109
Hauffe, K., 267
Haugen, G. R., 51
Haul, R. A. W., 451
Haun, J. L., 289
Hausen-Nygaard, L., 342, 344
Hauser, C. R., 303
Hauser, E. A., 440
Haven, Y., 85
Hawthorne, M. F., 225
Haxaire, A., 158
Hayashi, M., 346
Haydon, D. A., 444
Hayes, W., 84, 111, 112, 318
Hayman, C., 5
Haynie, W. H., 344
Hayon, E., 147
Hayward, A., 457
Hayward, D. O., 453
Hayward, R. W., 27
Hazato, G., 96
Head, E. L., 5
Heal, H. G., 134, 144
Healey, F. H., 447, 448, 449
Hearmon, R. F. S., 80
Hearne, J. A., 5
Heavens, O. S., 440
Hebel, L. C., 104
Hecht, C. E., 79
Hecht, K. T., 340
Heck, R., 238, 289, 294
Hedberg, K., 374
Hedge, D. G., 458
Hedvig, P., 113
Heer, C. V., 38
Heikes, R. R., 270
Heilbronner, E., 289
Hein, F., 169
Heine, V., 75, 77, 111, 261
Heinecken, F. W., 107
Heinemann, H., 282, 283
Heintzelman, W. J., 303
Heise, J. J., 108
Helders, F. E., 183, 191, 194
Helfferich, F., 163, 165
Heller, A., 231, 233, 305, 306
Heller, H., 165
Heller, W., 440, 454, 455
Hellin, M., 304
Henglein, A., 131, 133
Henin, F., 390
Henri, V., 421, 430
Henry, M. C., 148
Henry, R., 134
Henry, R. A., 9
Hepler, L. G., 4, 6
Herak, M. J., 168
Hereford, F. L., 78
Herington, E. F. G., 8, 64
Herman, F., 79
Herman, R., 322, 348, 349
Hermans, J. J., 167, 179, 193, 456
Herring, C., 85
Herschbach, D. R., 201, 203, 340, 342
Hervé, J., 113
Hervier, B., 4
Herwig, H. U., 190
Herzberg, G., 315-38; 245, 246, 320, 324, 326, 327, 329, 330, 331, 333, 371, 372, 373
Herzfeld, K. F., 207
Herzog, S., 107
Hestermans, P., 57
Hetzer, H. B., 49
Hexter, R. M., 351
Hickinbottom, W. J., 302, 304
Hickson, D. A., 449
Hiebert, G. L., 350
Hiejboer, J., 190, 193
Hietanen, S., 48
Higghins, H. G., 221
Higgins, H. C. L., see Longuet-Higgins, H. C.
Higgins, I. R., 171
Higginson, W. C. E., 228
Higuchi, J., 259, 452
Hikita, T., 410, 411
Hildebrand, J. H., 62, 63, 65

Hill, D. G., 4, 16
Hill, K. J., 6
Hill, R. A. W., 6
Hill, R. W., 1, 2, 37
Hill, T. L., 67, 166
Hilliard, J. E., 85
Hindman, J. C., 226
Hine, J., 234, 307
Hine, M., 234
Hines, R. L., 133
Hino, J., 85
Hinshelwood, C., 209
Hinzenga, W., 125
Hirami, M., 167
Hirota, K., 123
Hirsch, P. B., 86, 367
Hirsch-Ayalon, P., 164
Hirschfelder, J. O., 97, 221, 391, 392
Hisatsune, I. C., 206, 350, 374
Hjalmars, I. F., see Fischer-Hjalmars, I.
Hnery, L., 64
Hoar, T. P., 450
Hoare, D. E., 209, 217
Hoare, F. E., 3, 4
Hobbs, M. E., 351
Hochanadel, C. J., 134, 135, 136, 144
Hodgins, J. W., 212
Hodnett, E. M., 225
Hoefelmeyer, A. B., 290
Hoering, T. C., 230
Hoerni, J. A., 361
Hoeve, C. A. J., 456
Hoffman, C. J., 2
Hoffman, R. E., 86
Hofmann, U., 160
Holder, B. E., 114
Holg, D F., 225
Holland, F. A., 61
Holley, C. E., Jr., 5
Holm, C. H., 96, 97, 98, 100, 101, 108
Holm, V. C. F., 265
Holmes, B. G., 452
Holmes, R. R., 47
Holøien, E., 247
Holroyd, A., 198
Holroyd, R. A., 211, 307
Holtzclaw, H. F., Jr., 351
Honig, R. E., 3, 4, 14, 319
Honjo, G., 367
Hood, G. C., 100
Hopkins, I. L., 193
Hopkins, L., 350
Hoppe, J. I., 232
Hoppes, D. D., 27
Horgan, V. J., 149
Horino, T., 191
Hornig, D. F., 203, 207, 319, 350, 366
Horning, E. O., 130
Hornyak, F. N., 223
Horowitz, J., 261
Horton, A. I., 172
Hosemann, R., 455
Hoshino, S., 3
Hoskin, N. E., 441
Hossenlopp, I. A., 7, 8
Hotta, S., 167
Hougen, J. T., 170
Houston, E., 410
Houston, W. V., 38, 39
Houwink, R., 450
Howard, W. H., 132
Howe, J. A., 259
Howe, K. L., 234
Howlett, K. E., 8
Huang, K., 39, 75, 385, 386
Hubbard, W. N., 7
Hubbs, J. C., 114
Huber, E. J., Jr., 5
Hübner, K., 111
Hudson, R. P., 27, 32, 33
Hue, J., 95
Hugel, G., 237
Hugenholtz, N. M., 387
Hughes, D. J., 80
Hughes, E. A. M., see Moelwyn-Hughes, E. A.
Hughes, E. D., 223
Hughes, S. R. C., 48
Hughes, W., 444
Hugo, T. J., 318, 320
Hulburt, H. M., 276, 440
Humphreys, D. G., 447
Humphreys, H. M., 3, 299
Humphries, A. R., 7
Hunebelle, G., 170
Huntington, H. B., 403
Hurley, A. C., 256, 257, 322, 332
Hurley, C. R., 4
Hurley, H. C., 256
Hurst, G. S., 123
Hurst, R. P., 323
Husigen, R., 289
Hutchinson, E., 440, 456
Hutchison, C. A., Jr., 111, 114
Huzinaga, S., 248, 252, 253, 254, 322
Hylleraas, E. A., 245, 246
Hyman, H. H., 304
Hyndman, D., 368
Hyslop, J., 322

I

Ibers, J. A., 359-78; 96, 360, 361, 366, 367, 369
Ichikawa, Y. H., 75
Ichishima, I., 346
Ievskaya, N. M., 103
Iguchi, K., 259
Ikeda, Y., 456
Iler, R. K., 440
Iliceto, A., 221
Il'in, B. V., 448
Illuminati, G., 237
Ilse, W., 48
Inaba, A., 456
Inagaki, H., 132, 167
Indelli, A., 230
Inghram, M. G., 4, 5, 14
Ingold, C. K., 223, 225, 289, 290, 291, 324
Ingraham, T. R., 3, 15
Ingram, D. J. E., 108, 111
Innes, A. C. R., see Rose-Innes, A. C.
Innes, K. K., 324, 329
Inokuchi, K., 445
Inoue, S., 161
Inui, T., 248
Inukai, K., 99
Iofa, B. Z., 2
Irsa, A. P., 124
Irvine, D. H., 4, 226
Irving, J. H., 387
Irving, R. J., 229
Isfa, Z. A., 53
Ishibashi, N., 166
Ishida, Y., 192
Ishiguro, E., 248, 249, 251, 260, 261, 262, 323
Ishihara, A., 38, 162
Ishkin, I. P., 2, 57
Isobe, T., 99
Itano, H. A., 440
Ito, K., 99
Ito, M., 329
Itoh, J., 102
Itoh, T., 251, 323
Itterbeek, A. van, 59, 60, 109
Ivanov, V. I., 169
Ivanova, E. F., 50, 52
Ivanova, V. S., 169
Ivanovsky, L. Y., 5, 15
Ives, D. J. G., 51
Ivey, D. G., 191
Ivin, K. G., 8
Ivin, K. J., 7
Iwanami, M., 289
Iyengar, P. K., 80
Izmaĭlov, A. N., 52
Izmaĭlov, A. V., 52
Izmaĭlov, N. A., 50, 52
Izmaĭlova, D. P., 162
Izmaĭlova, V. N., 52

J

Jaccarino, V., 83, 84, 112
Jach, J., 206
Jackson, H. L., 164
Jackson, M. L., 159
Jacobs, I. S., 81, 83
Jacobs, P. W. M., 440
Jacobson, A., 440
Jacobson, H., 164
Jacox, M. E., 207
Jaeger, M., 6, 7
Jaffé, H. H., 289, 292
Jaffe, L., 8
Jahn, H. A., 331

James, A. M., 459
James, H. J., 411
James, H. M., 247
Jameson, D., 349
Jameson, E , 457
Jamieson, J. C., 398
Jan, J. P., 78
Jangg, G., 163
Janot, C., 6
Janz, G. J., 2, 7, 48, 50, 346
Jardetzky, C. D., 98
Jardetzky, O., 98
Jarmain, W. R., 321
Jarrett, H. S., 105
Jarry, R. L., 2
Jaruzelski, J., 305, 306
Jayson, G. G., 145
Jeck, R., 299
Jeener, J., 61, 62
Jeffries, C. D., 104, 114
Jenckel, E., 190
Jenkin, D. G , 359
Jenkins, F. A., 315
Jenkins, F E., 230
Jennings, L. D., 5
Jepson, W. B., 58
Jesse, W. P., 123
Jessup, R. S., 402
Jira, W., 289
Joerchel, D., 455
Joffe, J., 12
John, G. S., 269
Johnes, R. H., 232
Johns, H. E., 151
Johns, J W. C., 316, 318, 319
Johnson, D. A., 148
Johnson, F. M., 84
Johnson, G. R. A., 135, 140
Johnson, L. F., 229
Johnson, M. F. L., 265
Johnson, R E., 230
Johnston, H. L., 2, 270
Johnston, H. S., 201, 202, 203, 205, 212
Johnston, W. D., 270
Johnston, W. H., 239
Johnston, W. V., 5
Jolley, J. E., 63, 217
Jolly, W. L., 2
Joly, M., 445, 451
Jonassen, H. B., 8
Joncich, M., 232
Jones, D. A., 111
Jones, E. P., 161
Jones, G. O., 399, 404, 408
Jones, J. E. L., see Lennard-Jones, J. E.
Jones, K. J., 157
Jones, L. H., 345, 350
Jones, R., 101
Jones, R. W., 194
Jones, T. G., 446
Jones, W. D , 346
Jonge, J. de, 232
Jongenburger, P., 87
Jordan, J., 10
Jordan, P., 86
Jortner, J., 135
Josien, M. L., 64
Jost, W., 64, 86, 407
Joy, A. S., 451
Judd, B. R., 111
Judd, L., 390
Jungen, H., 308
Jungk, H., 300
Jursa, A. S., 320

K

Kabir, P. K., 245
Kac, M., 390
Kachinskii, V. N., 60
Kadesch, R. R., 318
Kaganov, M. I., 77
Kagarise, R. E., 7, 13, 347
Kagawa, I., 167
Kahn, A., 126
Kahn, B., 380
Kahn, M., 157
Kainer, H., 107
Kakiuchi, Y., 101
Kalinachenko, V. R., 237
Kameck, H. J., 443
Kamienski, B., 444
Kaminsky, M., 51
Kamper, R. A., 108, 114
Kanamori, J., 83
Kanazawa, H., 75
Kanda, E., 96
Kaner, E. A., 77
Kantner, E., 168
Kantor, S. W., 303
Kantro, D. L., 450
Kanzaki, H., 87
Känzig, W., 73, 110
Kaplan, H., 251
Kaplan, J., 95, 321
Kaplan, J. I., 101
Kaplan, L. D., 348
Kapustinskii, A. F., 1, 6, 62, 403, 406
Karaseve, B. V., 2
Karassev, V. V., 449, 450
Karle, I. L., 362, 363, 375
Karplus, M., 100
Karpouchkine, L. T., 147
Karpov, L. Ya., 407
Karpov, V. L., 151
Karpova, T. F., 5
Kartzmark, E. M., 47
Kasha, M., 315
Kasper, A. A., 172
Kassner, B., 163
Kasteleijn, P. W., 81
Kastler, A., 93, 113
Katagiri, K., 132
Katchalsky, A., 167, 458
Katlafsky, B., 346
Kats, A., 111
Katz, G., 366
Katz, J. J., 304
Katz, W. B., 172
Kaufman, J. J., 100
Kauzmann, W. J., 428
Kawaguchi, S., 279
Kawai, H., 191
Kawai, K., 347
Kay, L. M., 170
Kay, R. L., 51
Kay, W. B., 8
Kayama, K., 245-64; 249, 251, 260, 261, 262, 323
Keating, D. T., 364
Kedzie, R. W., 104, 114
Keefer, R. M., 2, 238
Keelty, M. C., 325
Keen, J. P., 138, 150
Keenan, A. G., 2
Keenan, T. K., 170, 227
Keffer, F., 83
Kehrer, K., 231
Keidel, F. A., 362
Keiffer, W. F., 224
Kell, G. S., 47
Keller, R., 9
Kellers, C. F., 37
Kelley, M. T., 172
Kelley, R. E., 78
Kellogg, H. H., 4
Kelly, K. K., 6
Kemball, C., 273, 281
Kemp, M. D., 9
Kemp, W. R. G., 81
Kennedy, F., 308
Kennedy, G. C., 397, 403
Kennedy, J., 161
Kennedy, J. W., 230
Kenney, J., 59
Kerdavid, M., 49
Kerker, M., 454
Kerr, E. C., 2, 33
Kertes, S., 131
Ketelaar, J. A. A., 346, 374
Keyes, R. T., 410
Kharin, S. E., 442, 444
Kho-yn, K., 6
Khutsishvili, G. R., 94
Kiang, A. K., 49
Kianpour, A., 7, 8, 10
Kiess, N. H., 316, 327
Kigoshi, K., 229
Kihara, T., 391, 410, 411
Kikuchi, M., 86
Kikuchi, R., 39, 384, 446
Kilb, R. W., 339, 340, 341, 342, 372, 373, 374
Kilby, D. C., 225, 301
Kilpatrick, J. E., 8
Kilpatrick, M., 48, 304
Kilpi, S., 50
Kimball, W. A., 445
Kincheloe, T. C , 8
King, E. G., 4, 5, 6
King, E. L., 170

King, G. W., 324, 325
King, J. C., 32
King, J. P., 4
King, M. B., 61
King, W. T., 347
Kinoshita, T., 246
Kinsey, P. A., 341, 344
Kip, A. F., 77, 83, 104
Kipling, J. J., 449
Kirillov, Y. M., 450
Kirilyuk, S. S., 51, 52
Kirkwood, J., 428
Kirkwood, J. G., 66, 98, 383, 387, 389
Kiselev, A. V., 451
Kiselev, V. F., 448
Kisselev, V. G., 127
Kistemaker, J., 125
Kistiakowsky, G. B., 205, 211, 216, 217, 307, 308, 324, 369, 372
Kistima, T. I., 404
Kistler, S. S., 395-416; 396
Kitamura, N., 367
Kitchener, J. A., 157, 441
Kittel, C., 83, 84, 104
Kiukkola, K., 3, 4, 15
Kivelson, D., 106, 340
Klein, F. S., 231, 233, 305, 306
Klein, G. E., 131
Klein, M. P., 114
Klein, R., 114, 443
Kleinert, P., 169
Kleman, B., 317, 319, 321, 323, 327
Klemens, P. G., 81
Klement, R., 169
Klemperer, W., 6, 318, 346
Klerk, D. de, 32, 33
Klevens, H. B., 445
Klick, C. C., 73
Kline, D. E., 190, 193
Klingmüller, V. O. G., 170
Klir, L., 170
Klochko, M. A., 52, 54
Klyachko, V. A., 161
Klyne, W., 437
Knedler, H., 7
Knee, T. E C., 225
Knight, R. B. D., 114
Knight, W. D., 83, 104
Knodorskii, E. I., 105
Knop, C. P., 226
Knopoff, L., 403
Knox, J. H., 307, 308
Knox, L. H., 8, 12
Kobakhidze, E. I., 160
Kobatake, Y., 166
Kobayashi, A., 451
Kobayashi, M., 171, 351
Kobe, K. A., 7
Koch, G. K., 134
Kocki, J. K., 294
Koehler, J. S., 87
Koelmans, H., 442
Koenig, V. L., 148
Kohler, F., 64
Kohn, H. W., 271
Kohn, W., 81
Koide, S., 252, 332
Koike, M., 102
Koizumi, M., 3
Kojima, T., 110, 343
Kokes, R. J., 280, 281
Kolbina, Y. M., 4
Kolinsky, M., 304
Kolka, A. J., 302
Kolotiĭ, A. A., 54
Kolotilova, A. Y., 8
Kolouŝek, J., 148
Kolsky, H., 193
Kolsky, H. G., 2
Kolthoff, I. M., 440
Komarewsky, V. I., 265, 439
Komatsu, H., 101
Kondo, T., 443
Kondorskii, E. I., 82
Kontecky, J., 452
Kooyman, E. C., 289
Koppelmann, J., 191
Korinek, G. J., 99
Korshunov, I. A., 169
Koschel, D., 162
Kosiyama, K., 192
Koski, W. S., 100
Kostowski, H. J., 321, 348
Kostylev, F. A., 5
Kotani, M., 245-64; 249, 251, 260, 261, 262, 323
Koulikès-Pujo, A. M., 139
Kowalski, R. C., 11
Kozhevnikov, A. V., 161
Kozyrev, B. M., 114
Kramer, G. M., 57
Kramers, H. C., 32, 33, 37, 39, 41
Kranendonk, J. van, 81, 349
Kranjc, K., 455
Kratky, O., 455
Kraus, C. A., 47
Kraus, J. W., 210
Kreevoy, M. M., 296, 297, 299, 305
Kreger, W. E., 265
Kremnev, L. Ya., 444
Kresge, A. J., 225
Kresze, G., 352
Kreuzer, H., 5
Kreye, W. C., 4
Krier, C. A., 6
Krips, J., 164
Krisement, O., 75
Krishnamachari, S. L. N. G., 328
Krishnaswamy, N., 161
Kromhout, R. A., 368
Kross, R. D., 351
Krotova, N. A., 450
Krueger, P. J., 349
Kubo, R., 81, 106, 388
Kuchitsu, K., 363
Kuhn, H., 254
Kuhn, L. P., 228
Kuhn, W., 417-38; 417, 418, 419, 421, 424, 426, 427, 428, 430, 433, 434, 436, 437
Kuivila, H. G., 289, 294
Kukolev, G. V., 441
Kullnig, R. K., 98
Kumar, R., 442
Kummer, J. T., 280, 281
Kunin, R., 157, 158, 162
Kuper, A. B., 85
Kuper, C. G., 28
Kuraishi, T., 329
Kurata, M., 384
Kurath, S. F., 190
Kurland, R. J., 340, 341
Kurnick, S. W., 407
Kurochkin, S. S., 103
Kurras, E., 169
Kurshakova, R. D., 4, 16
Kurtz, S., S., 300
Kushner, L. M., 166
Kusumoto, H., 101, 133
Kutschke, K. O., 204
Kutsev, V. S., 4
Kuwabara, S., 367
Kuznetsova, N. P., 162
Kydd, P. H., 211, 216, 307
Kyle, E., 59

L

Labes, M. M., 224, 230
Labhart, H., 254
Lacher, J. R., 7, 8, 10
Lacroix, R., 111
Lacy, W. J., 172
Lagerqvist, A., 317, 318, 319, 321
Lago, R. M., 282
Lagrange, G., 171
la Gueronnière, E. De, see De la Gueronnière, E.
Laidler, K. J., 12, 51, 135, 201, 206, 222
Laird, R. K., 222, 326, 328
Laitone, E. V., 390
Laity, R. W., 54
LaMar, L. E., 170
la Mare, P. D. de, see Mare, P. D. de la
Lamb, W. E., 113
Lambert, J. D., 59
Lambert, M., 62
Lambert, P., 171
Lambert, S. M., 5
La Mer, V., 443, 446
La Mer, V. K., 446
Lamouroux, M., 9
Lampe, F. W., 126, 127, 216
Land, J. E., 49
Landau, L., 38

Landau, L. D., 31, 32, 33, 34
Landel, R. F., 183, 184, 187, 188, 189, 190, 191
Landers, L. C., 214
Landes, H. S., 79
Landis, P. S., 235
Landon, G. J., 6
Landqvist, N., 233
Lane, C. T., 36
Lane, E. S., 169
Lane, T J., 351
Lange, E., 5, 6, 12
Langenberg, D. N., 77
Langford, P. B., 234, 307
Langmaack, L., 167, 168
Lapidus, L., 163
Larsson, K. E., 33
Larsson, U. B., see Berglund-Larsson, U.
Lasater, J. A., 452
Latarjet, R., 149
LaTourette, J. T., 114
Latysheva, V. A., 52
Lauer, W. M., 301
Laughlin, J. S., 150
Laughlin, R. G., 307
Launay, J. de, 79
Laurence, G. S., 49, 227
Laurent, J. F., 86
Laurie, V W., 342, 344, 374, 375
Lauterbur, P. C., 98, 100, 101
Laval, J., 79
Laville, G., 186
Laviron, E., 232
Lawrance, R. B., 372
Lawson, A. W., 406
Lawson, K., 157
Lax, B., 76
Lazarus, D., 85, 86
Leaderman, H., 179-200; 185, 186, 189, 193, 194
Leary, R. E., 235
Leavitt, B. P., 218
LeBlanc, F., 320
LeClaire, A. D., 85
Lecocq, A., 58
Le Corre, Y., 79, 85
Leden, I., 49
Leder, L. B., 74
Lederer, E., 157
Lederer, M., 131, 157
Lednicer, D., 303
Leducq, P., 171
Lee, D. M., 38, 39, 40
Lee, E. H., 193
Lee, K., 443
Lee, P., 321
Lee, T D., 39, 380, 384, 386
Leffler, J. E., 224
Lefort, M., 123-56; 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 148, 150
LeGoff, P., 307
Legvold, S., 82
Lehmann, H. L., 419, 426, 430
Lehmann, K., 170
Leifer, A., 347
Leitner, M., 182
Leland, F. E., 253
Lemieux, R. U., 98
Lennander, S., 367
Lennard-Jones, J. E., 381
Lenshina, N. Ya., 169
LeNy, G., 289
Lerer, M., 237
Lerner, R. G., 339, 342, 343, 375
LeRoux, L. J., 223
Le Roy, D. J., 214
Lester, G. R., 47
Leto, J. R., 97
Leum, L. N., 265
Levi, D. L., 5
Levick, V G., 443
Levina, S. D., 143
Levine, H. B., 382
Levine, O., 448
Levine, S., 441
Levitch, M. E., 8
Levitman, K. Y., 53
Levy, H. A., 368, 369
Lewis, I. C., 290, 291
Lewis, J. E., 59, 63, 230
Lewis, J. T., 322
Lewis, T. J., 48
Ley, J. B., 304
Li, J. C. M., 76
Li, K., 8
Li, N. C , 169
Lialine, L., 57
Liander, H., 401
Libowitz, G. G., 5
Libres, W., 52
Lichten, W., 320
Lichtin, N. N., 294
Liddel, U., 64, 347
Lide, D. R., Jr., 340, 342, 343, 374
Lidiard, A. B., 85
Liebecq, C., 170
Liebermann, L. N., 323
Liebster, J., 148
Liehr, A. D., 331
Lien, A. P., 302, 303
Lietzke, M. H., 49
Lifschitz, E. M., 441
Lifshitz, I. M., 77, 105
Lifson, S., 166
Lilich, L. S., 52
Liljeblad, R., 402
Liljeqvist, B., 317, 319
Lin, C. C., 339, 340, 341, 372, 373
Lincoln, D. C , 291
Lind, S. C., 127, 136
Lindenbaum, A., 169
Lindenfors, S., 170
Linder, S., 95
Lindquist, R. H., 205
Lindsten, D. C., 172
Linnett, J. W., 332
Lipilina, I. I., 1, 6, 62
Lippincott, B. B., 108
Lippincott, E. R., 347
Lippmann, H., 102
Lipsky, S., 129
Liška, K., 170
Litterio, F. R., 162
Little, W. A., 104
Littlewood, R., 8
Littman, F. E., 148
Liu, I. D., 218
Liuzzi, A., 150
Livingston, R., 207
Llewellyn, D. R., 233, 304, 306
Llewellyn, P. M., 114
Lloyd, L., 2, 6
Lloyd, S. G., 402
Lock, J. M., 5, 82
Lockhart, J. C., 304
Lodge, A. S., 195
Loewenstein, A., 99
Lofthus, A., 316, 317
Loginov, G. M., 6
Lohr, H. R., 5
Loinger, A., 387
Lomax, D. A., 213
London, F., 31, 34, 38
London, H., 34
Long, D. A., 349
Long, E. A., 31, 41
Long, F. A., 15, 207, 233, 303, 304, 306
Long, J. S., 445
Long, L. H., 7, 214
Long, T. R., 80
Longstaff, J. V. L., 228
Longuet-Higgins, H. C., 59, 67, 331, 333
Longworth, R., 167
Looney, C. E., 98
Loprest, F. J., 62
Lord, N. W., 110
Lord, R. C., 3, 11, 344, 345, 347
Los, J. M., 233
Losa, C. G., 4
Lösche, A., 113, 114
Losev, I. P., 162, 164
Loshaek, S., 183, 184
Lossing, F. P., 7, 15, 210
Louis, M., 170
Lounasmaa, O. U., 37
Louvegnies, M., 114
Low, M. J., 49
Low, W., 110, 111, 260
Lowde, R. D., 82
Löwdin, P. O., 75, 247
Lowe, I. J., 103
Lu, B. C. Y., 62
Lubszynski, H. G., 366
Lucas, H. J., 298
Lucchesi, P. J., 442

Luff, B. B., 6
Lugt, W. van der, 83, 96, 104
Luke, P. J., 110
Lukianenko, B., 231
Lundy, R., 3, 4, 5
Lupien, Y., 64
Lupinski, J. H., 106
Lüscher, E., 99
Lustig, C. D., 108
Luthra, S. P., 61
Luttinger, J. M., 81, 386
Lutz, E., 329
LuValle, J. E., 372
Lykos, P. G., 333
Lynn, K. R., 225
Lynn, N., 322
Lyuboshitz, N. Y., 9
Lyubov, B. Y., 86
Lyzlova, S. N., 8

M

Maatman, R. W., 265, 282
McBain, M. E L., 440
McCall, D. W., 101, 293
McCarroll, R., 322
McCarty, J. E., 233
McCarty, M., 325
McCaulay, D. A., 302, 303
McCauley, C. E., 128
McCliment, E., 97
McConnell, H. M., 93, 97, 99, 100, 101, 105, 106, 107, 108, 109, 222
McCoubrey, A. O., 29
McCoubrey, J. G., 304
McCubbin, T. K., Jr., 344
McCullough, J. P., 7, 8
McDaniel, D. H., 289, 291
McDevit, W. F., 306
McDonald, C , 126
MacDonald, G. J. F., 76, 403
McDonald, L. A., 160
MacDonald, M., 390
McDonald, R. S , 352, 452
MacDonald, W. M., 390
McDonell, W.R., 130, 139, 150
McDonough, J. M , 2
McDowell, C. A., 316, 319
McElhinney, J., 151
McEvoy, J. E., 267
McEwan, W. S., 9
McEwen, K. L., 333
McEwen, W. E., 289, 304
McGarvey, B. R., 97, 112, 293
McGarvey, F. X., 157, 158
McGill, R. M , 450
McGlynn, S. P., 315
McGrath, W. D., 204, 208
McGregor, W. R., 108
Mach, W. J., 457
Machor, E. L., 237
McHugh, J. P., 373
MacInnes, D. A., 45
McIntosh, R., 451, 452
McKannan, E. C., 189
McKean, D. C., 346
McKellar, A., 317, 327
McKelvey, J. G , Jr., 165
MacKenzie, J. K., 76
Mackenzie, N., 270, 452
Mackenzie, R. C., 159
McKinney, J. S., 191
MacKinnon, L., 29
Mackor, E. L., 304
McLaughlin, J. R., 192
MacLean, C., 106, 108
McLeod, J. B., 66
McMillan, W. G., 67, 221
McMullen, A. I., 447
McNamara, J. H., 235
McNaughton, G. S., 132, 137, 138
McNesby, J. R., 206, 215, 216
McSkimin, H. J., 80
McWeeny, R., 259, 328, 332
Madan, M. P., 391
Maeda, K., 363
Magee, E. M., 225
Magee, J., 147
Magee, J. L., 135, 252
Magee, R. J., 158
Magnuson, D. W., 342, 344, 374
Magnusson, E. A., 229, 333
Mah, A. D., 4, 5
Mahan, B. H., 211, 216, 307
Mahanti, P. C., 317
Mahlman, H. A., 136, 144, 145
Mai, U. H., 449
Maier, W., 222
Main, R. K., 164
Maitlis, P. M., 237
Maki, A., 346
Malcolm, G. N., 64
Malherbe, J. F., 321
Malinin, N. I., 439
Mandel, J., 185, 186
Mander, M. R., 349
Manecke, G., 161, 165
Manegold, E., 440
Manenkov, A. A., 110, 114
Manheimer Y., 410
Manion, J. P., 127, 129
Manley, D. G., 239
Mann, D. E., 2, 7, 14, 340, 342, 343, 346, 347, 374
Mann, M. G., see Gell-Mann, M.
Mannari, I., 257, 260
Manning, I., 388
Manning, J. R., 85
Manning, P. P., 209, 210
Manno, P. J., 239
Manus, C. 114, 442
Mapother, D. E., 404
Marcus, R. A., 205, 227
Marcus, Y., 169
Marek, M., 304
Margerum, D. W., 229
Margrave, J. L., 2, 4, 5 15
Marino, G., 237
Markevitch, A. M., 143
Markin, T. L., 141
Markina, Z. N., 457
Markovitz, H., 191, 194, 195
Markus, R. L., 162
Marmo, F. F., 321
Marr, G. V., 327
Marsh, J. D. F., 265, 269
Marsh, J. K., 170
Marshall, C. E., 159
Marshall, G. P., 51
Marshall, J. W., 228
Marshall, S. A., 343, 344
Marshall, W., 82
Martens, G., 212
Martin, C. J., 294
Martin, J. J., 59
Martin, N., 170
Martinez, J. V., 350
Marton, L., 74
Marvell, E., 232
Marvin, R. S., 191
Mase, S., 404
Maslov, P. G., 12, 16
Mason, E. A., 59, 391
Mason, H. E., 29
Mason, W. B., 147
Masri, E., 142, 143
Massey, H. S. W., 252, 403
Massone, J., 170
Mastagli, P., 171
Masuda, Y., 105
Matalon, R., 446
Mathieson, A. R., 61, 66
Mathieu, J., 426, 430
Mathot, V., 61, 65, 67, 68
Matijević, E., 442
Matousek, L., 454
Matsen, F. A., 259, 323, 329
Matsuoka, S., 182
Matthews, J. B., 445, 448
Matthias, B. T., 29, 30
Mattis, D. C., 77
Mattoo, B. N., 8
Matubara, I., 328
Maurer, P. W., 11
Maury, P. B., see Bonet-Maury, P.
Maus, L., 444
Maxted, E. B., 279
Maxwell, B., 182, 190, 193
Maxwell, C. R., 148
Maxwell, E., 27
Maxwell, J. B., 11
Maxwell, L. R., 360
Maybury, R. H., 150
Mayer, E., 186

Mayer, J. E., 67, 380, 382, 384
Mayer, J. R., 8, 12
Mayer, M. G., 380
Mayer, R. P., 304
Mayhood, J. E., 348
Mays, J. M., 112
Mazur, P., 380, 387
Meacock, S. C. R., 232, 305
Meader, A. L., 447
Meador, W. R., 8, 9, 12
Meal, J. H., 347
Meares, P., 163
Medalia, A. I., 440
Médard, L., 9
Medvedev, S. S., 131
Medvedovsky, V. I., 144
Meehan, E. J., 440
Meerwein, H., 308
Meggy, A. B., 8
Meguro, K., 443
Mehrotra, K. N., 446, 457
Meiboom, S., 99, 101
Meier, J., 222
Meissner, H. P., 17
Meister, A. G., 7
Mekhaĭlov, I. G., 53
Melander, L., 225, 301
Meleshko, V. P., 162
Melkanoff, M. A., 260
Mellink, J. H., 36
Mellor, J. W., 402
Melnick, M. A., 230
Melnikov, A. I., 3
Melton, C. E., 3, 124
Melton, C. M., 207
Mendelssohn, K., 38, 60
Mendlowitz, H., 74
Meneghetti, D., 83
Mennonöh, S., 407
Menter, J. W., 86, 449
Merritt, W. D., Jr., 301
Merz, W. J., 409
Meshitsuka, G., 129
Mesrobian, R. B., 133, 161
Messerly, J. F., 8
Metz, D. J., 133, 161
Metz, K. L., 303
Meurs, N. van, 346
Meurs, P. van, 408
Meyer, E. G., 230
Meyer, L., 31
Meyer, L. H., 293
Meyer, N. J., 163
Meyer, R. A., 132
Meyerson, S., 124
Meyniel, G., 170
Mhala, M. M., 225
Miae, E. A., 103, 114
Michaeli, I., 167
Michalik, E. R., 455
Michel, A., 316
Michel, M., 5
Michels, A., 1, 408, 409
Mickel, J. P., 226
Midtdal, J., 246
Miederer, W., 5, 6, 12
Miescher, E., 317
Migal, P. K., 52
Mihama, K., 366
Mikailov, B. M., 127
Mikovsky, R. J., 269
Mikulin, G. J., 53
Mikura, Z , 39
Milburn, R. M., 50
Millar, J. R., 169
Miller, A., 211
Miller, B , 224, 289, 303
Miller, D. L., 132
Miller, E., 265
Miller, F. A., 346
Miller, G. A., 12
Miller, I., 168
Miller, I. R., 458
Miller, J., 239, 289, 323
Miller, J. G., 57, 224
Miller, N., 125, 136, 137
Miller, R. E., 5
Miller, R. L., 102
Miller, S. I., 301
Miller, S. L., 261
Miller, W. F., 123
Miller, W. G., 101, 221
Millett, W. E., 78
Milliken, T. H., 267, 282, 283
Mills, G. A., 267, 271, 282, 283
Mills, I. M., 347, 348
Mills, R. L., 40
Milsted, J., 157, 168
Milton, G. M , 170
Milyukov, P. M., 3, 4
Mine, S., 52
Minkoff, G. J., 209
Mino, G., 228
Minomura, S., 349
Minturn, R. E., 449
Mirnik, M., 442
Misawa, S., 82
Mishchenko, K. P., 52
Miskidzh'yan, S. P., 51, 52
Mislow, K., 436
Missen, R. W., 62, 64
Mitchell, A. H., 104
Mitchell, C. M., 59
Mitchell, R. W., 114
Mitra, S. P., 159
Miwa, T., 232
Miyake, A., 188
Miyamoto, K., 191
Miyashita, I., 108
Miyazawa, T., 350, 351
Mizuno. Y., 245-64; 237, 249, 251, 260, 261, 262
Mizushima, M., 262
Mizushima, S., 346, 350, 351
Mizushima, W., 329
Moelwyn-Hughes, E. A., 7, 62, 64
Moesta, H., 58
Moffitt, W., 255, 322, 331
Mohai, B., 4
Mohilner, D. M., 49
Moilliet, J. L., 444
Moirta, H., 289
Moiseiwitsch, B. L., 322
Moldenhauser, J. C., 318
Mole, T., 237, 300
Molin, Yu. H., 107
Molinary, C. J., 11
Monchick, L., 135
Moncrieff, R. W., 459
Monk, C. B., 50
Monnier, A., 165
Monnier, A. M., 165
Montaldi, E., 323
Montgomery, P., 7
Montroll, E. W., 207, 390
Moodie, A. F., 366, 367
Moon, S., 303
Moore, A. E., 6
Moore, C. G., 182
Moore, G. E., 348, 349
Moore, J. C., 62
Moore, W. R., 64
Moreland, W. T., Jr., 291
Morgan, C. Z., 266
Morgan, L. O., 96
Morgenstern, D., 390
Mörikofer, A., 289
Morino, Y., 363
Morita, T., 82, 384
Moriya, T., 95
Morozova, M. P., 3, 4, 5, 6
Morrell, A. G., 222
Morris, J. C., 372
Morrison, J. A., 80, 193
Morrison, S. R , 440
Morrow, J. C., 3, 11
Morse, R. W., 29
Mortinsen, J. L., 159
Mosher, C. S., 456
Motard, R. L., 269
Motizuki, K., 95
Motozato, Y., 161
Mott, N. F., 38, 75
Mottl, J. R., 2, 9, 330
Moulton, W. G., 368
Mounier, J., 170
Moynihan, R. E., 345
Mozley, R. F., 151
Mrozowski, S., 328
Muckenfuss, C., 391
Mueller, C. R., 59, 63
Muetterties, E. L., 99
Muggleton, D. E., 48
Muhammad, S. S., 2
Mukaiyama, T., 289
Mukherjee, L. M., 2, 48
Mulay, L. N., 102, 114
Muldrow, C. N., Jr., 4, 6
Muller, G. B., 341, 344
Muller, J., 101
Müller, K. A., 111
Muller, N., 98, 101, 302
Mullhaupt, J. T., 209

Mulligan, B. W., 346
Mulliken, R. S., 302, 315, 316, 317, 319, 320, 323, 325, 332
Mullins, L., 182
Munger, N., 170
Münster, A., 17, 68, 379
Murakami, Y., 123
Murakoshi, M., 165
Murata, H., 229, 347
Murdock, J. D., 289
Murgai, M. P., 411
Murmann, R. K., 226
Murnaghan, F. D., 411
Murr, B., 148
Murray, C. S., 151
Murray, G. R., 98
Murrell, J. N., 259, 333
Musgrove, W. K. R., 63
Muxart, R., 412
Muzuno, Y., 323
Muzyka, I. D., 52
Myer, Y. P., 11
Myers, C. E., 4, 5, 14
Myers, R. J., 372
Mysels, K. J., 446, 456

N

Nace, D. M., 11
Nachtrieb, N. H., 86
Nagakura, S., 367
Nagamatsu, K., 191
Nagamiya, T., 87
Nagasawa, M., 167
Nagashima, T., 252, 332
Nagata, C., 236
Nagata, I., 161
Nahmani, G., 410
Nair, P. M., 101
Nair, V. S. K., 50
Nakada, O., 188
Nakagawa, I., 351
Nakagawa, T. W., 2
Nakagoki, M., 454
Nakajima, S., 81, 388
Nakamoto, K., 351
Nakanishi, N., 161
Nakano, H., 81
Nakazaki, M., 107
Nalbadian, A. B., 143
Nanassy, A., 349
Nancollas, G H., 50
Nanda, V. S., 39
Naor, P., 76
Napolitano, J. P., 302
Narasimham, N. A., 315, 319, 346
Nash, V. E , 159
Nasini, A., 450
Natanson, E. M., 442
Natta, G., 279
Naudé, S. M., 318
Naylor, R. E., Jr., 340, 342
Needham, R. W., 349
Nefedov, V. D., 230
Neihof, R., 164, 166
Neilson, E. F., 7
Nelson, B., 396
Nelson, H., 232
Nelson, K. L., 300
Nerdel, F., 352
Nesbitt, L. B., 27
Nesmeianov, A. N., 2, 6
Nethercot, A. H., Jr., 84, 344
Neufeld, J., 151
Neugebauer, C. A., 2, 4, 5, 15
Neuhaus, A., 402
Neuhaus, H., 316
Neumann, H. M., 229
Neumann, J. von, 387
Neuworth, M. B., 171
Nevin, T. E., 318
Newcombe, M. M., 62, 63
Newell, G. F., 79
Newitt, D. M., 61, 209
Newman, C., 374
Newman, E. S., 3
Newman, M. S., 232
Newton, A. S., 130
Newton, T. W., 225
Nicholls, R. W., 321, 327
Nicholson, A. E., 222
Nicholson, D. E., 8, 267
Nicholson, G. R., 7, 8
Nicolet, M., 322
Nielsen, A. E., 442
Nielsen, A. H., 345
Nielsen, H. H., 345, 349, 371, 372
Nielsen, J. R., 7, 346
Niels-Haklenberg, C. G., 32, 33, 37
Niemann, W., 161
Nier, A. C., 37
Nierenberg, W. A., 114
Niira, K., 259
Nijboer, B. R. A., 76
Nikitina, T. S., 131
Nikol'skiĭ, B. P., 158
Nilheden, G., 318
Nilsson, N. E., 319
Ninomiya, K., 187, 188, 189
Nishikawa, T., 343, 371
Nishioka, A., 101
Niven, W. W., Jr., 440
Niwa, K., 3
Nixon, E. R., 350
Nobel, J. de, 83
Noddack, W., 410
Noland, W. E., 301
Nolle, A. W., 96
Noller, H., 171, 276
Norberg, R. E., 103, 108
Nordsieck, A., 248
Norris, T. H., 229
Norrish, R. G. W., 204, 208, 222, 327
Noyce, D. S., 299, 304
Noyes, R. M., 221
Nozieres, P., 75
Nygaard, L. H., see Hausen-Nygaard, L.
Nyholm, R. S., 351
Nyquist, I. M., 348

O

Obel'chenko, P. F., 52, 53
Oberst, H., 190
Oblad, A. G., 265-86; 265, 282, 283
O'Brien, C. J., 6
Ocker, H. D., 165
O'Connor, D. J., 448
Oda, K., 165
Oda, R., 161
Oda, Y., 165
Odajima, A., 102
Odajima, M., 102
Oeser, J., 114
Oestreich, C., 8
Oetjen, R. A., 344
Oetting, F., 10
Offenbach, J., 192
Ogama, M., 317
Ogawa, S., 366
Ogg, R. A., 99
Ogg, R. A., Jr., 2, 95, 98, 206, 218
O'Gorman, J. M., 375
Ohno, K., 251, 323
Okada, S., 149
Okamoto, H., 162
Okamoto, Y., 236, 294, 300
Okamura, S., 132
Okkerse, B., 86
Okuyama, H., 457
Olah, G., 302, 303
Oldroyd, J. G., 447
Olette, M., 1, 3, 10
Olivier, J. P., 451
O'Loane, J. K., 374
Olphen, H. van, 159
Onaka, R., 317, 318
Onishi, T., 257
Ono, S., 382
Onogi, S., 191
Onsager, L., 35, 37, 38, 45, 46, 384, 388
Ooshika, Y., 254, 456
Öpik, V., 331
Oppenheim, I., 380, 385
Orekhov, V. D., 144
Orestova, V. A., 162
Orgel, L. E., 76, 98, 111
Oriani, R. A., 97
Ormont, B. F., 4
Ortiz, E., 325
Osawa, F., 166
Osberg, W. E., 350
Osborn, G. H., 158
Osborne, D. V., 32
Osborne, D. W., 5, 38, 39, 40
Oseen, C. E., 424, 428

Osipov, O. A., 446
Osipov, V. B., 151
Ostacoli, G., 450
Oster, G., 440
O'Sullivan, D. G., 290
O'Sullivan, W., 83
Othmer, D. F., 11
Otnes, K., 33
Ouchi, A., 391
Ovenall, D. W., 114
Overbeek, J. T. G., 441, 443, 456
Overhauser, A. W., 81
Owen, B. B., 10
Owen, J., 83, 84, 85, 93, 104

P

Pack, D. C., 411
Packer, J., 289
Padday, J. F., 448
Padden, F. J., 194
Pagès, M., 141
Pai, M. U., 61
Pake, G. E., 95, 106, 369
Pakhomov, A. S., 82
Palevsky, H., 33, 80
Palik, E. D., 344, 345
Palm, A., 347
Palmer, H. B., 203
Palmer, K. J., 374
Pandya, R. N., 161
Pandya, T. P., 221
Pangonis, W. J., 440, 455
Panish, M. P., 63
Panteleyeva, N. S., 8
Pao, Y. H., 194
Paoloni, L., 259
Papee, H. M., 12
Paramonova, V. I., 169
Parham, W. E., 308
Pariser, R., 190, 253, 258
Park, J. D., 7, 8, 10
Park, J. G., 84
Parker, A. J., 239, 289
Parker, F. R., 383
Parker, F. W., 345
Parker, R. A., 166
Parker, S. H., 224
Parkinson, D. H., 5, 82
Parkinson, W., 321
Parks, J. R., 99
Parmenter, R. H., 79
Parr, R. G., 247, 253, 258, 323, 333
Parravano, G., 265
Parsonage, N. G., 61
Parsons, B. N., 209
Parsons, Sir Chas., 396
Partridge, M. F., 84
Pashley, D. W., 86
Pasquon, I., 279
Passaglia, E., 190
Passonneau, J. V., 108
Patai, S., 223
Patlak, C. S., 166
Patnaik, D., 51
Patrick, L., 408
Patrick, R. L., 450
Patterson, W. G., 211, 216
Paul, M. A., 1-26; 303, 306
Paul, W., 407
Pauli, R., 33
Pauli, W., 389
Pauling, L., 360, 440
Pauncz, R., 256
Pavelich, W. A., 298
Payens, T. A J., 445
Payne, A. R., 189
Payne, K.R., 279
Pchejetzky, S. I., 123
Peace, J. B., 443
Peacock, T. E., 259, 328
Peakall, D. B., 449
Pearce, M. L., 48
Pearson, D. E., 294
Pearson, G. L., 406, 407
Pearson, R. G., 229, 298
Pearson, R. W., 132
Pearson, S., 87
Pebay-Peyroula, J. C., 113
Pedley, J. B., 8
Peeling, E. R. A., 279
Peerdeman, A. F., 436
Pellam, J. R., 32, 33, 35, 108
Pelletier, S., 49
Pellon, J., 222
Peltier, D., 49
Pelzer, H., 192
Pemsler, J. P., 352
Penland, R. B., 351
Penneman, R. A., 170
Penner, S. S., 321, 348
Pennington, R. E., 7, 8
Penrose, O., 38
Pepper, K. W., 161
Perez, J. P., 409
Perizzolo, C., 231, 233, 304, 305, 306
Perkins, P. G., 3, 10
Person, W. B., 348, 351
Peshkov, V. P., 60
Pestaner, J. F., 150
Peterlin, A., 195
Peters, D., 289
Peters, E. F., 270
Peterson, D. C., 148
Peterson, S. W., 368, 369
Pethica, B. E., 446, 448
Pethica, T. J. P., 448
Peticolas, W. L., 65, 183, 451
Petit, G., 6, 7
Petit, J., 86
Petrolo, J., 270
Petropoulos, C. C., 224
Petrov, G. S., 160
Petry, R. C., 130
Petukhov, G. G., 107
Peyroula, J. C. P., see Pebay-Peyroula, J. C.,
Pfann, W. G., 86
Pfeifer, H., 102, 114
Philippoff, W., 194, 195, 196
Philippot, J., 39, 389
Phillippe, R. J., 351
Phillips, J. G., 321, 327
Phillips, N., 447
Phillips, W. D., 98, 99, 100, 453
Philpot, J. S. L., 149
Phung, P. V., 136, 146
Pickett, L. W., 302
Pierce, L., 340, 342, 374
Piette, L. H., 98
Pihl, A., 8
Pilpel, N., 456
Pimental, G. C., 350
Pinch, H. L., 3
Pinder, J. A., 214
Pines, D., 30, 74, 75, 104
Pings, C. J., Jr., 10
Pinsker, Z. G., 365, 367
Piper, W. W., 361
Pipkin, F. M., 104, 114
Pippard, A. B., 77
Pirt, S. J., 228
Pitzer, K. S., 201, 202, 203
Plane, R. A , 50
Plank, C. J., 282
Plaskett, J. S., 78
Platzer, R., 163
Platzman, R. L., 125, 146
Plazek, D. J., 183, 193
Pliskin, W. A., 278, 452
Plumb, R. C , 350, 366
Plyler, E. K., 7, 345, 346, 372
Pochinallo, A. P., 169
Pochon, M., 86
Poirier, J. C., 383
Poker, Y., 223
Polanyi, M., 202
Pollister, A., 440
Polo, S. R., 345, 374
Poltorak, O. M., 345
Pomeranchuk, I., 40, 41
Pomerantsev, N. M , 114
Ponomareva, A. M., 52
Ponyatovskiĭ, E. G., 400
Pool, R. A. H., 61
Pope, D. F. D., 111
Popiel, W. J., 168
Pople, J. A., 59, 96, 100, 253, 259, 333, 381
Popov, M. M., 5
Popper, F., 9
Porath, J., 160
Porod, G., 455
Porter, B. W., 149
Porter, G., 327
Porter, G. B., 211
Porter, J. J., 307
Porter, R. F., 14
Posey, F. A., 226, 228
Pospelova, K. A., 457
Potter, E. C., 171

Potter, R. L., 2
Poulis, N. J., 83, 96, 104
Poulson, R. E., 98
Pound, R. V., 114
Pouradier, J., 4
Powell, R. S., 201, 203
Powles, J. G., 113
Prakash, D., 159
Prasad, S. C., 80
Prat, H., 1
Prater, C. D., 265, 283
Pratt, G. W., 261
Pratt, M. W. T., 7, 8
Premaswarup, D., 318
Prenzlon, C. F., 451
Preston, R. S., 79
Preuss, H., 257, 323
Price, C. C., 291
Price, P., 39
Price, R. H., 276
Price, S. J. W., 203
Price, W. C., 331
Prigogine, I., 39, 60, 65, 67, 81, 381, 389, 390
Primas, H., 114
Prins, W., 456
Pritchard, G. O., 214
Pritchard, H. O., 332
Pritchard, J., 452
Pritchard, J. G., 233
Proctor, W. G., 103
Prokhorov, A. M., 110, 114
Prokudin, S. D., 151
Prosen, E. J., 8
Proskurnin, M. A., 144
Prosser, A. P., 441
Prue, J. E., 49, 232
Pruitt, K. M., 239, 301
Prusakov, V. N., 164
Pryce, M. H. L., 111, 261, 331
Pucheault, J., 138, 141
Pujo, A. M. K., see Koulkès-Pujo, A. M.
Puranik, P. G., 7
Purcell, E. M., 369, 409
Puri, B. R., 11
Puri, R. P., 162, 171
Purlee, E. L., 51
Putnam, W. E., 8

Q

Quagliano, J. V., 351
Quarterman, L. A., 298
Quinn, H. W., 452
Quinn, J. J., 74
Quinn, W. E., 101, 114
Quintin, M., 49

R

Rabinovitch, B. S., 212
Rachinskiĭ, V. V., 162
Rahman, A., 256, 323
Raimes, S., 74
Raiser, M. D., 103, 114
Rajan, K. S., 170
Raker, A., 444
Ramaiah, N. A., 232
Ramirez, F., 107
Ramos, L., 228
Ramsay, D. A., 318, 320, 325, 326, 328, 330, 332
Ramsey, N. F., 114
Ranade, J. D., 321
Rank, D. H., 345
Rao, C. N. R., 289
Rao, D. H., 2
Rao, H. C. S., see Subba Rao, H. C.
Rao, I. A., 329
Rao, K. N., 328, 344, 345
Rao, K. S., 316, 317, 320
Rao, P. S., 321
Rao, P. T., 318
Rao, T. N., 2
Rao, V. R., 329
Rappen, F., 308
Raraty, L. E., 454
Rasper, J., 445
Rastogi, R. P., 62, 66, 221
Rathenau, G. W., 84, 86
Ratner, T. G., 147
Rätzsch, M., 2
Ravdel, A. A., 444
Raw, C. J. G., 59
Ray, A. K., 168
Ray, B. R., 443, 458
Ray, J. D., 2, 95, 98, 99, 218
Ray, P., 168
Raynor, G. V., 76
Razuvaev, G. A., 107
Rea, D. G., 347
Reay, J. S. S., 452
Rebentisch, W., 402
Rebeyrotte, M., 149
Reddy, M. P., 129
Reddy, S. P., 318
Redfield, A. G., 112
Redman, M. J., 160
Ree, T., 452
Reed, C. W., 8
Reed, J. F., 212
Reed, L., 366
Reed, R. I., 330
Rees, A. L. G., 2, 319, 364, 365
Reese, R. M., 2, 14
Reeves, L. W., 62, 63, 64, 99
Regel, A. R., 53
Rehbinder, P. A., 457
Reich, I., 456
Reid, C., 97, 302, 324, 329
Reif, F., 104
Reijen, L. L. van, 277, 452
Reilly, C. A., 96, 100
Reilly, E. L., 98
Reinebeck, L., 328
Reinheimer, G. D., 224
Reitz, D. C., 109
Reitzel, J., 409
Relyea, D. I., 234
Rempel, R. C., 102
Renault, P., 169
Renner, R., 326
Renton, C. A., 102
Rethmeier, B. C., 382
Reuss, J., 58
Revina, A. A., 144
Reynes, G. C., see Crouzat-Reynes, G.
Reynolds, C. A., 27
Reynolds, J. E., 85
Reynolds, J. M., 35
Rezukhina, T. N., 4, 16
Rhodes, P., 105
Rice, M., 114
Rice, M. H., 2, 10
Rice, O. K., 38, 39, 64
Rice, S. A., 6, 162, 166, 346
Rice, W. E., 59
Richards, N. E., 7, 10
Richards, R. E., 98, 369
Richardson, E. G., 3, 7, 10
Richardson, E. H., 327
Richardson, M. J., 58
Richardson, P. J., 13
Richardson, R. L., 266
Richter, A., 158
Richter, G., 162
Richter, J., 114
Rickayzen, G., 29
Riddiford, A. C., 2
Rideal, E., 447
Riehl, N., 457
Rieman, W., III, 164, 170
Ries, H. E., Jr., 445
Rietvald, A. O., 59, 60
Rigg, T., 143
Rinck, G., 4
Rinehart, K. L., Jr., 303
Rintelen, H. V., 308
Ritchie, R. H., 75
Rivlin, R. S., 181, 182, 183
Roberts, E. J., 166
Roberts, E. N., 445
Roberts, H. L., 346
Roberts, J. D., 291, 301, 307
Roberts, J. E., 195
Roberts, L. M., 5, 6, 82
Roberts, R., 151
Roberts, R. M., 302
Roberts, T. R., 39
Robertson, E. C., 396, 403
Robertson, J. M., 350
Robertson, R. E., 109
Robertson, W. W., 329
Robin, M., 452
Robins, J., 289
Robinson, D., 321
Robinson, G. W., 324, 325
Robinson, M. T., 131
Robinson, R. A., 49
Rocard, J. M., 112
Rochow, E. G., 97, 102

Röck, H., 64
Roe, G. M., 185
Rogers, J., 450
Rogers, M. T., 63, 349
Rogers, N. W., 302
Roggen, A. van, 108, 109
Roggen, L. van, 108, 109
Rogovaya, I. A., 2, 57
Rogozinski, A., 412
Rollefson, G. K., 140, 205
Romanov, M. N., 162
Roodyn, D. B., 149
Rorschach, H. E., 38, 39
Rosano, H. L., 446
Rose-Innes, A. C., 107, 114
Rosenberg, N. W., 165
Rosenblum, B., 77, 344
Rosenbluth, A. W., 382
Rosenbluth, M. N., 383, 390
Rosenfeld, L., 387
Rosenstock, H. B., 79
Rosenstock, H. M., 124, 207
Rosenthal, D., 232, 305
Rosenthal, J. E., 372
Ross, I. G., 260, 333
Ross, J., 385, 389
Ross, S., 446, 451
Ross, S. D., 224
Rosser, W. A., Jr., 218
Rossini, F. D., 402
Rost, U., 439
Roth, W. L., 83
Rothe, R., 64
Rothrock, J. J., 265
Rothstein, J., 103
Rouse, P. E., 185, 193
Roux, D., 112
Roux, D. P., 101
Rowe, G. W., 454
Rowley, M., 168
Rowlinson, H. C., 269, 272
Rowlinson, J. S., 57-72; 8, 58, 61, 62, 64, 66, 382
Roy, D. K., 94, 102
Roy, R., 396, 403
Roy, S. K. G., 94
Rubin, R. J., 207
Ruch, R. J., 448
Rückert, H., 170
Rudolph, H. D., 222
Rudolph, P. S., 127
Ruedenberg, K., 253
Ruiter, O. H., 452
Rundle, R. E., 112
Runyan, W. R., 96
Rush, P. P., 247
Russell, G. A., 224, 225
Russell, H., Jr., 374
Russell, J. B., 16
Russell, R. A., 349
Rust, K., 308
Rutledge, P., 209
Rutskov, A. P., 53
Ruyven, B. H. van, 51, 52
Ruzicka, P., 402
Ryabinin, Y. N., 403
Ryan, J. P., 445
Rylander, P. N., 124
Ryter, C., 111, 114

S

Saba, W. G., 3, 5
Sachtler, W. M. H., 277, 452
Sack, H. S., 191
Sack, R. A., 331
Sackman, J. F., 7
Sadauskis, J., 123
Sadek, H., 224
Sadler, P. W., 290
Saegebarth, K. A., 228
Saenz, A. W., 389
Sage, B. H., 10
Sagel, K., 68
Saika, A., 100, 101, 102
Saito, N., 168
Saito, S., 457
Saito, T., 165
Sakai, N., 166
Sakamoto, M., 248
Sakikawa, N., 123
Sakurai, T., 410
Salman, B. C. L., 5, 12
Salmon, J. E., 169
Salomaa, P., 231, 232, 304
Salpeter, E. E., 245
Salsburg, Z. W., 66
Saltsburg, H., 384, 444
Salzburg, Z. W., 382, 383
Samoĭlov, O. Ya., 1, 6, 51, 52, 62
Sampson, J. B., 87
Sampson, R. J., 236
Samsonov, G. V., 54, 162
Samuel, A. H., 135
Samuelson, O., 163, 170
Sanders, J. V., 446, 448
Sands, R. H., 102
Sanesi, M., 51
Sanger, R., 442
Sanllehi, F. B., see Bueso-Sanllehi, F.
Santamaria, R., 458
Santhamma, V., 329
Sanz, H., 228
Saraga, L. T. M., see Ter Minassian-Saraga, L.
Sargent, R. N., 170
Sarin, B. K., 162
Sarjant, R. J., 59
Sarmousakis, J. N., 49
Saroff, H. A., 166
Sasaki, H., 457
Sasaki, K., 3
Satchell, D. P. N., 321, 304
Satterfield, C. N., 218
Satterwaite, C. B., 29
Sauer, J. A., 101, 133, 190, 193
Sauers, C. K., 238
Saunders, D. G., 296
Saunders, D. W., 181, 182, 183, 195
Saunders, L., 458, 459
Saunders, M., 98
Saunders, W. H., Jr., 224, 235, 289
Saurel, J., 58, 412
Savage, C. M., 345
Sawada, K., 73, 74, 75, 386
Sawaguchi, E., 408
Saxena, S. C., 59
Saylor, J. H., 62
Sazonov, L. A., 6
Scanlan, J., 255
Scatchard, G., 167, 457
Schaafsma, A., 8
Schaafsma, Y., 289
Schaeffer, R., 101
Schaeffer, W. D., 234
Schäfer, K., 58
Schafroth, M. R., 29
Schall, R., 410
Schauwecker, H. E., 344
Scheraga, H. A., 457
Scheuer, O., 126
Schiewetz, D. B., 276
Schiff, H., 79
Schimmel, F. M., 107
Schindewolf, U., 170
Schindler, A. I., 81
Schissel, P., 3, 4, 14, 319
Schissler, D. O., 126, 216
Schläfer, H. L., 4
Schlaffer, W. G., 266
Schlapp, R., 320
Schlegov, V. H., 147
Schlier, R. E., 364
Schlögl, R., 162, 163
Schlömann, E., 84
Schlosser, E. G., 267
Schmeising, A. N., 297
Schmelz, M. J., 351
Schmerling, L., 300
Schmid, J., 169
Schmidt, F., 169
Schmidt, L., 346
Schmidtke, H. H., 4
Schmieder, K., 190, 193
Schmir, G. L., 232
Schmitt, R. W., 81, 83
Schmutzer, E., 444
Schnabel, W., 133
Schneider, C. H., 449, 456
Schneider, W. G., 64, 98, 99, 100
Scholes, G., 145, 147, 149
Schomaker, V., 361, 362, 372, 373, 374, 375
Schonhorn, H., 165
Schormüller, J., 170
Schott, G., 203
Schouteden, F., 161
Schrader, R., 352
Schreiber, F., 84
Schrieffer, J. R., 28, 30, 403

Schriesheim, A., 294, 305, 306
Schröder, W., 64
Schroeder, W. A., 170
Schubert, J., 169
Schubert, W. M., 289
Schug, K., 170
Schuhmann, K., 58
Schuit, G. C. A., 277, 452
Schüler, H., 316, 328, 329
Schuler, R. H., 128, 129, 130, 135, 136, 150
Schuller, F. G., 64
Schulman, J. H., 73, 440 450, 458
Schulte, J. W., 128, 133
Schultis, W. J., 35
Schultze, W., 63
Schulz, K. F., 168, 442
Schumacher, E., 162
Schumacher, R. T., 103
Schwab, G. M., 48
Schwab, H., 164
Schwabacher, W. S., 100
Schwabe, K., 282
Schwartz, J., 114
Schwartz, J. R., 224
Schwarz, H., 138
Schwarz, H. A., 139, 143
Schwarz, H. M., 246
Schwarzenbach, G., 222
Schwarzl, F., 185, 186, 193
Schwendeman, R. H., 362, 363, 364
Scott, A. B., 271
Scott, D. W., 8
Scott, G. G., 84
Scott, P. H., 455
Scott, R. L., 63, 65, 66
Scovil, H. E. D., 96
Searcy, A. W., 4, 5, 14
Searles, S., 298
Sears, P. G., 47
Secrest, D., 6, 12
Sedlacek, B., 454, 455
Seed, L., 222
Seel, F., 231
Segrè, E., 412
Seiden, J., 94, 95
Seitz, F., 86, 87
Seiyama, T., 166
Seki, S., 102, 107
Sekine, T., 168
Sekino, S., 343
Sekiyama, H., 252, 332
Selbin, J., 229
Seldam, C. A. ten, 76
Selin, L. E., 317, 319, 321
Selwood, P. W., 265, 276, 453
Semeluk, G. P., 213
Semenchenko, V. K., 53
Semenow, D. A., 301
Sen, S. K., 329
Senent, S., 228
Senio, P., 87
Sense, K. A., 5, 6
Serbina, N. N., 160
Seregin, A. V., 443
Serin, B., 27
Serpinsky, V. V., 9
Serratosa, J. M., 441
Servoss, R. R., 346
Sewell, P. B., 366
Seymour, E. F. W., 105
Shaffer, W. H., 345, 347, 349
Shafrin, E. G., 448
Shah, S. M., 61
Shair, R. C., 164
Shakhovskoi, G. P., 3, 5, 11
Shalit, H., 265
Shapiro, I., 5, 279
Sharov, V. T., 6
Sharp, J. A., 227, 228
Sharts, C. M., 101
Shatenshteĭn, A. I., 237
Shaw, A. C., 170
Shchukarev, S. A., 6, 52
Sheard, D. R., 7
Shearer, J. N., 345
Shedlovsky, T., 45-56; 45, 46, 51
Sheel, P., 231
Sheldon, J. C., 65
Shen, A. L., 167, 457
Shepard, J. W., 445
Shepp, A., 204
Sheppard, J. C., 227
Sheppard, N., 345, 350, 351, 452
Sher, I. H., 458
Sherman, R. H., 40
Sherr, C. W., 253, 263
Shida, S., 123
Shieh, N., 236
Shim, B. K. C., 272
Shimada, R., 329
Shimanouchi, T., 346, 347, 350, 363
Shimauchi, M., 317
Shimizu, K., 347
Shimoji, M., 3
Shiner, V. J., 236
Shiner, V. J., Jr., 224, 295, 296
Shinoda, K., 65
Shinohara, K., 101, 133
Shirai, M., 456
Shishnaishvili, M. E., 160
Shoolery, J. N., 98, 101, 114
Shoosmith, J., 327, 330, 331
Shpiegel, I. S., 103, 114
Shufler, S. L., 188, 189
Shugart, H. A., 114
Shuler, K. E., 13, 207, 390
Shuler, W. E., 345
Shull, C. G., 82
Shull, H., 247, 260, 333
Shulman, R. G., 83, 84, 102, 112
Shurts, E. L., 170
Shutilov, V. A., 53
Sibbett, D. J., 282
Sidhu, S. S., 83
Sidman, J. W., 259, 333
Sieg, L., 64
Siegel, S., 340, 343
Sienko, M. J., 16
Sierocka, M., 169
Sill, R. C., 450
Sillen, L. G., 48
Silsbee, H. B., 114
Silsbee, R. H., 110
Silverman, S., 348, 349
Simamura, O., 237
Simanov, Y. P., 4, 16
Simha, R., 162, 447
Simmonetta, M., 299
Simmons, H. E., Jr., 301
Simmons, J. W., 342, 344
Simms, J. A., 303
Simon, F., 402
Simon, W., 289
Simonoff, G., 141
Simons, H. L., 10
Simpson, L. B., 233
Simpson, W., 132
Singer, E., 276
Singer, S. J., 457
Singh, D. D., 11
Singh, M. P., 228
Sinke, G. C., 17
Sinotova, E. N., 230
Sirounian, V., 75
Sirvetz, M. H., 374
Sittel, K., 185
Sivaramakrishnan, V., 50
Skapski, A. S., 450
Skarsgard, I. D., 151
Skell, P. S., 287-314; 235, 308
Skewis, J. D., 449, 456
Skinner, H. A., 7, 8, 12
Skoblionok, R. F., 171
Skochdopole, R. E., 5
Skov, S. A., 430
Slater, J. C., 261
Slater, N., 202
Slichter, C. P., 104
Sliepcevich, C. M., 454, 455
Slifkin, L. M., 85
Sloan, G. J., 105
Slough, W., 65
Slutsky, L. J., 80
Sluyters, T., 1
Slykhouse, T. E., 399
Smaller, B., 111
Smellie, R. H., Jr., 443
Smiltens, J., 4, 16
Smirnov, M. V., 5, 15
Smirnov, S. P., 396, 400
Smit, P. J., 237, 304
Smith, C. S., 80
Smith, D. W., 374
Smith, F., 64
Smith, F. J., 318, 319

Smith, F. W., 452
Smith, H. A., 450
Smith, H. P., 145
Smith, J. A. C., 447
Smith, J. C., 308
Smith, J. H., 83
Smith, J. M., 17
Smith, J. W., 62
Smith, L. L., 163
Smith, M. B., 457
Smith, R. B., 282
Smith, R. G., 189, 194, 350, 374
Smith, R. L., 447
Smith, R. S., 31
Smith, T. D., 169
Smith, T. L., 191
Smith, W. M., 231
Smith, W. V , 263, 371, 372, 375
Smoluchowski, R., 408
Smoot, C. R., 237, 300
Snow, R., 202
Snyder, W. S., 151
Sobotka, H., 446, 458
Sogo, P. B., 107, 108
Sohma, J., 102
Solimene, N., 339, 341
Sollner, K., 164, 165, 166, 457
Solms, J., 161
Solomon, I., 102, 104
Solomon, S., 289
Sommers, H S., 60
Sondheimer, E. H., 81
Sonnerskog, S., 161
Sorokin, Yu. A., 107
Sourisseau, M. G., 64
Sowden, R. G., 137
Sowerby, D. B., 230
Spaeth, C. P., 98
Spall, B. C., 210
Spalthoff, W., 2
Spangler, R. D., 189
Sparnaay, M. J., 441
Sparstad, T., 371
Spedding, F. H., 5, 82
Speirs, J. L., 63
Spence, R. D., 101
Spencer, H. E., 140
Spencer, T. V., 349
Spiegler, K. S., 165
Spink, J. A., 446
Spiro, M., 47
Spitzer, L., 390
Sponer, H., 315, 328
Spry, W. J., 114
Squire, C. F., 80
Srivastava, B. N., 59
Srivastava, K. P., 59, 391
Staas, F. A., 60
Stacey, F. D., 408
Stafford, F. S., 233
Stair, A. T., Jr., 346
Stanton, R. M., 5
Stark, J. B., 171
Staub, H. H., 114
Stauff, J., 445
Staveley, L. A. K., 5, 6, 11, 61
Staverman, A. J., 185, 186, 193
Steacie, E. W. R., 210, 214
Stecher, E. D., 232, 289
Stedman, R., 33
Steele, W. A., 451
Stein, G., 135, 143, 146, 147, 150
Stein, R., 301
Stein, R. S., 195
Stein, T. W., 218
Stephen, M. J., 97, 348
Stephenson, G., 64
Stern, D. M., 189
Stern, R., 161
Sternberg, H. W., 265
Sternglass, E. J., 74
Sternheimer, R. M., 260
Sterrett, K. F., 3, 5
Steunenberg, R. K., 2, 4
Stevens, K. W. H., 75, 81
Stevenson, D. P., 359-78; 126, 216, 369, 372, 373, 374, 375
Stevenson, R., 10, 11
Stewart, A. L., 322
Stewart, A. T., 78, 80
Stewart, D. C., 164
Stewart, D. T., 321
Stewart, J. E., 350, 351
Stewart, R., 225, 228, 289, 292
Stewart, R. J., 165
Stigter, D., 456
Stiles, M., 304
Stillinger, F. H., 444
Stillwell, W. D., 265
Stock, D. I., 53
Stock, L. M., 237
Stockmayer, W. H., 79, 179
Stocks, D. L., 170
Stoddard, A. E., 114
Stoddart, C. T. H., 273
Stoicheff, B. P., 317, 328, 344
Stokes, C. S., 13
Stokes, J. M , 47
Stokes, R. H., 47
Stone, P. J., 349
Stone, R. L., 13
Stone, R. W., 6
Storch, H. H., 280
Stout, J. W., 84, 112
Strahm, R. D., 225
Strandberg, M. W. P., 111, 372
Stranks, D. R., 230
Strauss, U. P., 167
Streedhar, A. K., 39, 41
Street, R., 83
Streitwieser, A., Jr., 233, 234, 299
Strella, S., 190
Streng, A. G., 13
Strickland-Constable, R. F., 61
Strohmeier, W., 65
Strombotne, R. L., 96
Strong, F. C., 2
Strong, H. M., 401
Strong, R. L., 203
Stull, D. R., 17
Stutchbury, J. E., 222
Styan, G. E., 64
Subba Rao, H. C., 163
Suda, H., 161
Suga, H., 102
Sugawara, T., 83, 105
Sugden, T. M., 3, 13
Sugiura, Y., 109
Suhrmann, R., 440, 453
Sullivan, J. C., 226
Sumner, F. H., 332
Sun, H., 321, 322
Sundaramma, K., 111
Sunderland, R. J., 114
Sunderlof, L. O., 64
Sundheim, B. R., 54
Sunner, S., 7
Surls, J. P., Jr., 163, 169
Suryanarayana, V., 329
Šusić, M. V., 170
Susz, B. P., 7, 351
Sutherland, G. B. B. M., 346
Sutherland, J. W., 158
Suttle, J. F., 133
Sutton, H. C., 137
Sutton, J. R., 61, 66
Sutton, L. E., 359, 373
Suzuki, T., 366
Svadlenak, R. E., 271
Svatos, G. F., 98, 101, 351
Swain, C. G., 223, 225, 230
Swalen, J D., 340, 342, 374
Swallow, A. J., 147, 149
Swanson, K. M., 113
Swart, E. R., 223, 451
Sweeney, D. M., 351
Swegler, E. W., 283
Swift, E. H., 232
Swift, R. M., 5
Swinehart, D. F., 16, 49
Sworski, T. J., 140, 141
Sychev, A. Y., 52
Sydoriak, S. G., 39
Symons, M. C. R., 108
Synge, R. L. M., 165
Syrkin, Ya. M., 441
Szabo, A., 426, 430
Szabo', Z. G., 228
Szwarc, M., 8

T

Tabibian, R. M., 454
Tabor, D., 449, 454
Tabor, W. J., 340, 343

Tabuchi, D., 221
Taconis, K. W., 41, 60
Tadd, H. T., 265
Taft, R. W., Jr., 287-314; 97, 232, 234, 288, 289, 290, 291, 292, 292, 295, 296, 297, 298, 299, 304, 306
Tainsh, R. J., 81
Tait, R. I., 3, 7, 10
Takagi, S., 366
Takahashi, A., 363
Takahashi, N., 366
Takahashi, T., 3
Takaishi, T., 451
Takeda, M., 98, 101, 102, 368
Takemoto, T., 192
Takeuchi, T., 268
Talat-Erben, M., 221
Tamamushi, B., 443, 456
Tamarkin, P., 29
Tamaru, K., 272
Tamres, M., 298
Tanabe, K., 307
Tanaka, K., 102, 365
Tanaka, S., 351
Tanaka, Y., 320
Tanford, C., 457
Taniguchi, H., 2, 48, 50
Tannenbaum, E., 342, 344
Taplin, G. V., 150
Tarassova, M. V., 127
Tarrago, X., 142, 143
Tartar, H. V., 456
Taube, H., 226, 228
Taubinger, R. P., 57
Tavernier, P., 9
Taylor, E. H., 271
Taylor, F. H., 459
Taylor, G. R., 247
Taylor, J. B., 9, 64
Taylor, J. H., 407, 444
Taylor, J. S., 171, 359
Taylor, M. D., 298
Taylor, R., 208
Taylor, R. D., 38, 39
Taylor, R. C., 345, 346
Taylor, T. I., 232, 305
Taylor, W., 149
Tedder, J. M., 303
Teitelbaum, B. Ya., 446
Teller, E., 331, 333
Tempel, M. van den, 444
Temperley, H. N. V., 39, 81
Tendeloo, H. J. C., 164
ten Seldam, C. A., see Seldam, C. A. ten
Teplitzky, D. R., 222
Ter Minassian-Saraga, L., 445
Tevlina, A S., 162, 164
Tewari, P., 442
Težak, B., 442
Thacker, R., 8, 62
Theimer, R., 7, 346
Thevenot, N. G., see Guenebaut-Thevenot, N.
Thewlis, J., 402
Thiele, H., 167, 168
Thilo, E., 231
Thode, H. G., 2
Thomas, A. G., 182
Thomas, B. R., 299
Thomas, G. O., 50
Thomas, L. H., 361
Thomas, M., 9
Thomas, S. L. S., 161
Thomas, W. M., 228
Thomason, P. F., 172
Thompson, D. D., 101
Thompson, H. B., 63
Thompson, H. W., 349
Thompson, R. R., 171
Thomson, G. P., 364
Thomson, S. J., 273
Thorn, R. J., 2, 14
Thorp, N., 63
Thorson, W., 331
Thring, M. W., 59
Thrush, B. A., 327
Thuan, S L. T., 171
Thynne, J. C. J., 61, 66
Tibbs, S. R., 252
Tideswell, N. W., 8
Tiers, G. V. D., 99
Tikhomirova, V. M., 169
Ting, T. W., 76
Tinkham, M., 29
Tipper, C. F., 300, 301
Tirouflet, J., 232
Tirrell, C. E., 165
Tisza, L., 31, 388
Titov, V. S., 160
Tobias, C. A., 170
Tobocman, W., 387
Tobolsky, A. V., 186, 188, 190, 192
Toda, M., 38, 81
Todd, D. B., 276
Todd, S. S., 6, 8
Toennies, J. P., 2, 3, 13, 124, 319
Tokita, N., 191
Tomita, K., 106
Tomizuka, C. T., 85
Tompkins, F. C., 440, 452, 453
Tong, J. Y., 224
Topson, R. D., 289
Tordoff, M., 132
Tosi, M. P., 76
Townes, C. H., 260, 261
Townsend, J., 106, 108
Townsend, M. G., 108
Trambarulo, R. F., 371, 372, 375
Trapeznikova, Z. A., 114
Trapnell, B. M. V., 270, 440, 453
Treloar, L. R. G., 182, 185, 195
Trendelenburg, F., 361
Trevorrow, L. E., 4
Tribus, M., 454
Trikha, S. K., 39
Trkal, V., 108
Trostyanskaya, E. B., 162, 164
Trotman-Dickenson, A. F., 202, 203, 298, 307
Truce, W. E., 303
Trueblood, K. N., 452
Tsai, L., 232
Tsuji, F., 449
Tsuno, Y., 289
Tsutsui, M., 303
Tsvetkov, Yu. D., 107
Tszi-tao, K., 3, 5
Tucker, C. W., Jr., 87
Turnbull, D., 86, 87
Turner, R. B., 8, 9, 12
Turnquest, B. W., 232
Turrell, G. C., 346
Tuttle, O. F., 396, 403
Tuttle, T. R., Jr., 93
Twelves, R. R., 308
Tyler, W. W., 11
Tyzack, C., 76

U

Ubbelohde, A. R., 6, 11, 59, 65
Uebersfeld, J., 114
Ueda, S., 449
Uehling, E. A., 389
Ueno, K., 351
Uffen, R. J., 403
Ugelstad, J., 232
Uhlenbeck, G. E., 389
Uhler, U., 317, 318
Uhlig, H. H., 265
Ui, K., 191
Ukihashi, H., 47
Ultee, C. J., 346
Unterberger, R. R., 114
Url, W., 131
Urry, W. H., 308
Uskov, I. A., 159
Uskova, Ye. T., 159
Uyeda, R., 86

V

Vainstein, B. K., 365, 366
Valentine, L., 133
Valko, E. I., 457
Valleau, J. P., 59
Valles, P. E., 401
Van Berk, P., 239
van Bommel, A. J., see Bommel, A. J. van
Van Daal, H. J., 84, 86
van den Berg, G. J., see Berg, G. J. van den
van den Tempel, M., see Tempel, M. van den
van der Lugt, W., see Lugt, W. van der

Van der Merwe, J. H., 366
Van der Vegt, A. K., 193
van der Waals, J. H., see Waals, J. H. van der
van de Vloed, H., see Vloed, H. van de
Van Eenam, D. N., 303
van Gerven, L., see Gerven, L. van
Van Holde, K. E., 193
Van Hove, L., 82, 379, 387, 389
van Itterbeek, A., see Itterbeek, A. van
van Kranendonk, J., see Kranendonk, J. van
van Meurs, P., see Meurs, P. van
van Olphen, H., see Olphen, H. van
van Reijen, L. L., see Reijen, L. L. van
van Roggen, A., see Roggen, A. van
van Roggen, L., see Roggen, L. van
van Ruyven, B. H., see Ruyven, B. H. van
Van Thiel, M., 350
Van Voorhis, J. J., 448
Van Wazer, J. R., 98
van Wieringen, J. S., see Wieringen, J. S. van
van Zeggeren, F., see Zeggeren, F. van
Varma, K. T. R., 62, 66
Varshavskii, Ya. M., 237
Vasiliev, V. P., 5
Vasilieva, I. A., 4, 16
Vasishth, R. C., 163
Vassamillet, L. F., 2
Vaughan, J., 289
Vaughan, J. A., 49
Vaughan, P. A., 164
Vaughn, W. A., 450
Vekhets, T., 161
Velasco, R., 316, 319
Venkateswarlu, P., 318, 326
Verbanic, C. J., 224, 236, 295
Verduch, A. G., 3, 4, 15
Verechnesky, U. V., 147
Verkade, P. E., 239
Verma, R. D., 318
Vermeil, C., 148
Vernon, C. A., 304
Verschagin, L. F., 404
Vidale, G. L., 346
Viervoll, H., 360, 362
Vignale, M. J., 294
Vinen, W F., 35, 36
Vineyard, G. H., 86, 364
Vishnu, A. J., 232
Vivarelli, S., 228
Vladimirov, G. E., 8
Vlassova, V. G., 8
Vlodovets, I. N., 447
Vloed, H. van de, 308
Vodar, B., 58, 412
Voge, H. H., 267
Vogel, F. L., Jr., 86
Vogel, R. C., 2
Vogelsong, D. C., 298
Voitkevich, S. A., 9
Vojta, G., 93
Volchenkova, Z. S., 5
Volf, E., 3, 4, 5
Volman, D. H., 214
Volpi, G. G., 217
Voltz, S. E., 268, 271, 280
von Beck, L. K. H., see Beck, L. K. H. von
von Doering, see Doering, W. von E.
von Eichborn, J. L., see Eichborn, J. L. von
von Fersmann, A., see Fersmann, A. von
von Neumann, J., see Neumann, J. von
von Willi, A. V., see Willi, A. V. von
Vreeland, J., 63
Vries, A. J. de, 440, 446
Vries, G. de, 39
Vuagnat, A. M., 350

W

Waals, J. H. van der, 106, 237, 304
Waddington, F. B., 132
Waddington, G., 7, 8
Wade, K., 3
Wadsö, I., 7
Wagener, S., 453
Waggoner, J., 349
Wagner, C., 3, 4, 15
Wagner, E. L., 350
Wagner, H. B., 161
Wagner, J. B., 3, 15
Wagner, M. L., 457
Wagner, R. S., 339, 341, 342, 344
Wagoner, G., 77
Wahl, A. C., 227
Wahl, W. H., 289
Wahrhaftig, A. L., 207
Wait, S. C., Jr., 7, 346
Wakefield, Z. T., 2, 6
Waldron, J. D., 132
Waldron, R. W., 350
Walker, C. B., 80
Walker, D. A., 300, 301
Walker, L. G., 289, 292
Walker, W. C., 321, 330, 444
Wall, F. T., 166, 167, 409
Wall, L. A., 132, 162
Wallace, W. E., 3, 5, 6
Wallenstein, M. B., 207
Walling, C., 222, 224, 289, 303
Wallis, R. F., 79, 322
Wallman, J. C., 114
Walmsley, R. H., 36
Walsh, A. D., 217, 324, 325, 332
Walsh, J. M., 2, 10
Walsh, W. M., Jr., 111
Walter, J. E., 428
Walters, G. K., 39, 40, 41, 60
Walters, W. D., 206, 211
Walton, A., 273
Walz, H., 289
Wang, C. H., 289
Wansink, D. H. N., 34, 60
Ward, R. L., 106, 222
Ward, W. H., 344
Waser, J., 362
Wassenaar, T., 1
Wassermann, A., 168
Watanabe, A., 449
Watanabe, D., 366
Watanabe, H., 111
Watanabe, K., 2, 9, 320, 321, 322, 330, 331, 374
Watanabe, T., 133
Watari, T., 384
Waters, D. N., 349
Waters, R. F., 269
Watillon, A., 441
Watkins, J. M., 183, 189
Watson, J. S., 217
Watson, W. F., 182
Watters, J. I., 5
Waugh, J. S., 86, 95, 97, 101
Weale, K. E., 222
Weaver, H. E., 102
Webb, A. N., 266
Webber, D. S., 350
Weber, D., 321
Weber, H. C., 17
Weber, J., 343, 344
Weber, K. H., 102
Webster, A. H., 227
Webster, D. E., 289, 294, 300
Wedler, G., 453
Weeks, R. A., 110
Weertman, J., 86
Wehner, J. F., 248
Wehrenberg, J., 86
Weingarten, H. I., 299
Weinheimer, A. J., 303
Weinstock, B., 38, 39, 40
Weise, C. H., 450
Weiser, K., 3
Weismann, T. J., 51
Weiss, A., 160, 169
Weiss, A. H., 12
Weiss, D. E., 160
Weiss, H. G., 279
Weiss, J., 123, 133, 135, 138, 140, 143, 145, 146, 147, 149

Weissler, G. L., 321, 322, 330
Weissman, S. I., 93, 106, 107, 109, 222
Weisz, P. B., 276, 282, 283
Weliky, N., 303
Weller, S. W., 268, 271
Wellman, R. E., 206
Wells, A. J., 348
Wells, C. F., 227
Wells, G. F., 3, 124
Welsh, H. L., 321, 349
Wender, I., 265
Wentorf, R. H., Jr., 401, 402, 403
Wepster, B. M., 239, 295, 298, 303
Werhagen, E., 321
Wert, C., 85
Wertz, J. E., 93-122; 93, 100, 110, 114, 367
Wesselink, G. A., 134
West, E. D., 5
Westerman, L., 8
Westfall, W. M., 169
Westmoreland, J. S., 289
Weston, J. F., 61, 66
Weston, M., 213
Weston, R. E., 347, 350
Weston, R. E., Jr., 205
Westrum, E. F., Jr., 2, 4, 5, 6, 7, 84
Wetstone, D. M., 164
Wette, F. W. de, 76
Wexler, A., 29
Whalley, E., 210
Wheeler, A., 276
Wheeler, C. M., 149
Wheeler, R. G., 36
Whelan, M. J., 86, 367
Whiffen, D. H., 114
Whippler, C., 132
White, A. G., 5, 12
White, D., 2, 5, 7
White, G. K., 81
White, J. M., 169
White, R. R., 170
Whitehead, G., 171
Whitfield, G., 112
Whiting, M. C., 7, 8, 12
Whitmarsh, C., 445
Whittam, T. V., 448
Wiberg, K. B., 228
Wichterle, O., 304
Wiebes, J., 32, 33, 37
Wiegand, C., 412
Wieker, W., 231
Wiemann, J., 171
Wiener, R. N., 350
Wieringen, J. S. van, 111
Wiggins, T. A., Jr., 345
Wigner, E., 403
Wijnen, M. H. J., 204
Wiley, D. W., 8, 12
Wilhelm, R., 133
Wilhelmy, W., 114
Wilhoit, E. D., 47
Wilkins, R. G., 229, 230
Wilkinson, F., 7
Wilkinson, G., 4
Wilkinson, M. K., 82
Wilkinson, P. G., 317, 319, 320, 325, 331
Wilks, J., 31, 32, 39
Willard, J. E., 130, 134, 203, 222
Willi, A. V. von, 289
Williams, E. J., 289
Williams, E. J. A., 322
Williams, F. V., 298
Williams, G., 301, 302, 304
Williams, G. A., 100, 101
Williams, L. C., 189
Williams, M., 232
Williams, M. J. G., 229
Williams, M. L., 183, 184, 187, 188, 189
Williams, M. M., 9
Williams, R., 205
Williams, R. A., 235, 289
Williams, R. J., 456
Williams, R. R., 127, 130
Williams, T. F., 132
Williamson, J. F., 6
Williamson, K. D., 7
Williamson, R., 303
Willsen, H. H., 345
Wilmshurst, J. K., 2, 346
Wilson, A. H., 17
Wilson, C. W., 95
Wilson, D. J., 202
Wilson, E B., Jr., 93, 100, 339, 340, 341, 342, 347, 348, 372, 373
Wilson, J. A., 139
Wilson, J. N., 266
Wilson, J. S., 293
Wilson, M. K., 339-58; 345, 374
Wilson, W. B., 276
Wilt, J. W., 308
Winans, J. G., 318
Windsor, M. W., 208
Wineman, P., 167
Winkel, P., 34
Winkler, H., 114
Winkler, R. E., 8, 9, 12
Winslow, E. H., 127
Winslow, G. H., 2, 14
Winslow, L., 456
Winstein, S., 222, 238, 289, 294, 299
Winter, E. R. S., 6
Winter, R., 308
Wise, H., 218
Wishnia, A., 98
Witte, J., 289
Woeldike, A., 316
Woessner, D. E., 102
Wojtowicz, P. J., 66, 83, 383
Wolcott, N. M., 4, 5
Wolf, E. de, 109
Wolf, K., 190, 193
Wolf, K. L., 440
Wolf, L., 170
Wolff, R., 443
Wolford, R. K., 47
Wolfsberg, M., 15, 207
Wolkenstein, T., 265, 267
Wong, E., 111, 114
Wood, J. H., 261
Wood, J. K., 194
Wood, J. L., 231
Wood, R. W., 331
Wood, W., 162
Wood, W. W., 383
Woodcock, R. F., 265
Woodruff, T. O., 75, 110
Woods, R. D., 75
Woods, S. B., 81
Woodside, D., 167
Woodward, A. E., 190, 193
Woodward, L. A., 346, 349
Woodworth, R. C., 308
Wooster, W. A., 80
Worsham, J. E., Jr., 368, 369
Worthman, R., 453
Wray, J. R., 194
Wray, K. L., 319
Wright, C. D., 308
Wright, L. W., 271
Wright, W. H., 27
Wu, C. S., 27
Wu, T. Y., 322
Wuhrmann, J. J., 7, 351
Wünsch, L., 171
Wyatt, P. A. H., 2, 6
Wycherley, V., 132
Wyller, A. A., 321
Wyllie, M. R. J., 165
Wyluda, B. J., 102

Y

Yafet, Y., 105
Yair, M. P. B., see Ben-Yair, M. P.
Yamabe, T., 168
Yamagata, K., 102
Yamaguchi, A., 350
Yamaguchi, S., 268
Yamamoto, M., 188, 194
Yamazaki, M., 332
Yamzin, I. I., 367
Yanagimoto, T., 407
Yang, C. N., 39, 380, 384, 385, 386
Yankwich, P. E., 224
Yarnell, J. L., 33
Yarrington, R. M., 8
Yates, B., 3, 4
Yates, D. J. C., 351, 452
Yatsimirsky, K. B., 3, 4
Yawataya, T., 165
Yeddanapalli, L. M., 238
Yn, K. K., see Kho-yn, K.

Yokokawa, T., 3
Yokota, M., 81, 388
Yokozawa, Y., 108
Yomosa, S., 39, 87
Yonan, P. K., 301
Yonezawa, T., 236
Yoshida, M., 102
Yoshikawa, S., 171
Yoshino, T., 346
Yoshitomi, T., 192
Yoshizumi, H., 245-64
Yosida, K., 83
Yost, D. M., 108
Young, A. C., 352
Young, F. E., 64
Young, F. W., Jr., 268
Young, G. J., 448, 449
Young, H. L., 237
Young, J. A., 61
Youngblood, J. F., 97
Yu, Y. F., 453
Yuan, W. L., 445
Yukawa, Y., 289
Yukitoshi, T., 102

Z

Zachariasen, W. H., 365
Zahlan, A. B., 126
Zamith, A. A. L., 168
Zand, R., 189, 190
Zapas, L. J., 188, 189, 191, 194
Zaripov, M. M., 114
Zbinden, R., 245
Zeelenberg, A. P., 208
Zeeman, P. B., 318
Zeggeren, F. van, 76, 450
Zeiss, H. H., 303
Zelikoff, M., 125, 322
Zemansky, M., 17
Zendle, B., 151
Zernike, J., 401
Zettlemoyer, A. C., 439-68; 444, 447, 448, 449, 453, 456
Zihlman, F. A., 9
Zimm, B. H., 185, 186, 194
Zimmerman, G., 2
Zimmerman, J. R., 95, 114, 452, 453
Zinovieva, K. N., 38, 60
Zisman, W. A., 446, 448
Zletz, A., 270
Zollinger, H., 226
Zorin, Z. M., 453
Zsula, J., 150
Zuchelli, A. J., 79
Zucker, L., 306
Zuckerbrodt, P., 68
Zürcher, R. F., 7
Zutranen, H. A., 445
Zwanzig, R. W., 387
Zwolinski, B. J., 412

SUBJECT INDEX

A

Absorbance
  acidity and, 295
  of diatomic gases, 321-22
  homogeneous bands, 419-24
    Gaussian intensity distribution and, 421-24
  nonhomogeneous bands, 430-35
  optical rotation and, 417-24, 430-35
Acetaldehyde
  bond lengths in, 372, 373
  from ethanol
    radiolysis and, 145-46
  photolysis of, 210
  rotational barriers and, 340
Acetamide
  photolysis of, 209-10
Acetic acid
  rotational barriers and, 340
Acetone
  bond length in, 373-74
  deuteration of, 273-74
    kinetic studies and, 215
  hydrogenation of, 276
  photolysis of, 210
  thermochemical properties of, 7
Acetonitrile
  conductance in, 48
Acetophenone
  conductance in, 48
Acetylene
  adsorption of
    spectroscopy and, 351
  bond length in, 372
    substitutions and, 344
  electronic transitions of, 324
  polymerization of
    radiation and, 127
  thermochemical properties of, 15
  vibration intensities of, 348
Acid
  weak
    ionization constants of, 49
Acid-base catalysis
  kinetics of, 231-33
Acidity
  extinction coefficient and, 295
Acidity function
  kinetic data and, 304-5
  reviews on, 303-4
  theory of, 305-7
Acoustic data
  kinetics and, 221-22
Acrolein
  rotation structure of, 344
Acrylamide
  polymerization of, 132
  as scavenger, 137-38
Actinide
  ion exchange of, 168, 169
Activation energy
  calculation of, 201-2
Activity coefficient
  electrolyte solutions and, 48-49
  of fused salts, 54
Acylmethylene
  stereospecific addition of, 308
Adenosine phosphate
  ion exchange of, 170
Adenosine triphosphoric acid
  thermochemical properties of, 8
Adhesion
  solid-liquid, 450
  solid-solid, 453-54
Adsorption
  heat of, 451
  hysteresis
    theory of, 451-52
  infrared spectroscopy and, 351-52
  at liquid-solid interfaces, 449, 450
  odor and, 459
  proteins and, 457, 458
  spectroscopy and, 452
Aerosol
  precipitation of, 444
Albumin
  see Serum albumin
Alcohol
  ion exchange of, 170
  oxygen exchange of, 233
  vibration intensities of, 349
  see also specific alcohols
Aldehyde
  photolysis of, 210
  see also specific aldehydes
Aliphatic reaction
  resonance effects in, 296-97
Alkali halide
  band spectra of, 318
  dissociation energies of, 320
  ionization of, 50
  self-diffusion in, 86
  surface energy of, 450
  thermochemical properties of, 6-7
  see also specific alkali halides
Alkali iodide
  radiolysis of, 130-31
Alkali molybdate
  thermochemical properties of, 7
Alkaline earth ion
  ion exchange of, 170
Alkali nitrate
  thermochemical properties of, 7
Alkylation
  of aromatics, 300-1, 302
  catalysis and, 280
  hyperconjugation effects and, 295
Alkyl nitrite
  spin resonance and, 98
Allene
  vibrational assignments of, 345
Alloy
  antiferromagnetic, 82-87
  electron diffraction and, 366
  spin resonance and, 104
  superconductivity of, 404
Allyl radical
  abstraction reactions, 215
  electronic structure of, 259
Alpha particle
  ion pair formation and, 123
  luminescence and, 124
Alumina
  catalysis and, 266-67, 269
  hydrogen-deuterium exchange and, 271
Aluminum
  de Haas-van Alphen effect of, 77
  thermochemical properties of, 5
  vibration spectrum of, 80
Aluminum chloride
  hydrogen-deuterium exchange and, 271-72
Aluminum oxide
  predissociation of, 319
Americium
  ion exchange of, 170
  oxides of
    thermochemical properties of, 5
Americium ion
  radiolysis and, 141

Amide
solvolysis of, 232
Amine
ionization potential of, 330-31
nitrous acid and, 233-34
solvation of
steric effects and, 297-98
thermochemical properties of, 9
Amino acid
ion exchange of, 170
ionization of, 49
radiolysis of, 148, 149
spectroscopic technique for, 352
synthesis of
irradiation and, 148
vibration spectra of, 347
Amino radical
electronic states of, 325-26
Ammonia
infrared spectroscopy of, 344
oxidation of, 218
quantum theory of, 251-52
radiolysis of, 126
synthesis of
kinetics of, 276
thermochemical properties of, 2
vibration spectrum of, 345
Ammonium chloride
bond length in, 369
heat capacity of, 52
Ammonium fluoride
bond length in, 369
Ammonium molybdate
ion exchange of, 169
Ammonium nitrate
thermochemical properties of, 2
Anchimeric assistance
solvolytic reactions and, 299-300
Anisotropic gel
protein behavior and, 168
Anistropy
light scattering and, 455
optical rotation and, 417-19, 424-30
physical significance of, 424-25
values of, 426
weak absorbance and, 425-30
Anthracene
electron spin resonance and, 106
Antibiotic
action of, 459
Antiferromagnetic substance
insulators and, 83-84
nuclear resonance in, 112
properties of, 82-83
Antigen-antibody complex
electrophoresis and, 457
Aqueous solution
inorganic
radiation and, 135-45
organic
radiation and, 145-50
Argon
thermochemical properties of, 1, 2
triple point of, 1
Aromatic reaction
catalysis and, 282
disproportionation, 302
ferrocenes and, 303
Friedel-Crafts, 300-1
halogenation, 301, 302
hydrogen-deuterium exchange and, 303
kinetics of, 236-39
positions and, 237
nitration, 301
of polycyclics
sigma values and, 300
resonance effects in, 291-95
substitution, 300-3
Arsenic
complexes of
ion exchange and, 168
Atomic scattering function
electron diffraction and, 360-61
Auto-oxidation
kinetics of, 217
Azulene
electronic structure of, 258-59

B

Bacteria
lysis of, 459
parahydrogen conversion by, 457
Basicity
solvation and, 297, 298
Benzene
chemisorption of, 278-79
derivatives of
electron impact and, 124
electrophilic reactivities and, 294
deuterated
synthesis of, 279
electronic structure of, 259-60
excited states of, 333
in fluorobenzene, 63
forbidden transitions of, 333
hydrogenation of
catalysis and, 269
ionization potential of, 331
magnetization and, 278-79
radiolysis of
aqueous, 146-47
vibration intensities of, 348
Benzidine rearrangement
isotope effect and, 225
Benzoic acid
ionization of, 291-92
substitution and, 289
Beryllium
complexes of
ion exchange and, 168
radioactive decay of
high pressures and, 412
Betaine hydrate
structure of, 347
Beta particle
ion pair formation and, 123-24
Bimolecular reaction
kinetics of, 212-13
Binary system
nonpolar, 61-62
polar, 64
Biological colloid
physical chemistry of, 457-59
Biphenyl
from benzene
radiolysis and, 146
electronic structure of, 259
electron spin resonance and, 106
Biradical
electron spin resonance and, 108-9
Birefringence
polymers and, 195-96
Bismuth
cyclotron resonance in, 77
melting point of
pressure and, 400
superconductivity of, 404
thermochemical properties of, 2
Bisulfate radical
radiolysis and, 138
Boltzmann equation
nonequilibrium mechanics and, 388-92
Bond angle
table of, 341-43
Bond length
in acetylenes, 344
carbon-carbon, 373-74
carbon-hydrogen, 370-73
carbon-oxygen, 375
conjugate systems and, 254
electron diffraction and, 363-64, 371, 373-75
magnetic resonance and, 368-70
of methane derivatives, 372
motion and, 369-70
nitrogen-hydrogen, 368-70
nitrogen-nitrogen, 374
silicon-hydrogen, 374-75

spectroscopy and, 370-73
sulfur-oxygen, 374
table of, 341-43
variations in, 373-75
Bond moment
dipole moments and, 348
Bond strength
activation energy and, 202
Borax
thermochemical properties of, 6
Boric acid
electron diffraction by, 365-66
spectrum of, 350
thermochemical properties of, 5
Boron
spin resonance and, 101
thermochemical properties of, 5, 14
Boron fluoride
amines and
kinetics of, 205
solvent interactions of, 99
thermochemical properties of, 5
Boron-hydrogen molecule
excited states of, 323
quantum theory of, 251
Boron nitride
hardness of, 402
Bose-Einstein gas
gravitational field and, 385
as hard spheres, 385-86
Brass
diffusion in, 85
Bromine
band spectra of, 318
dissociation of, 203-4
flash photolysis of, 203
Butadiene
decomposition of, 210
electronic structure of, 259
Butane
radiolysis of, 128-29
Butatriene
rotation spectrum of, 344

C

Cadmium
thermochemical properties of, 3
Calcium
and inorganic compounds of thermochemical properties of, 6
Calorimetry
heat of immersion and, 448
hydrogenation and, 12
lambda transition and, 37
micro, 62
nuclear, 103
radiant energy and, 151
techniques, 1, 10
Camphor
anistropy factor and, 430-31
Carbanion
reaction kinetics and, 234-35
Carbene
physical chemistry of, 307-8
Carbohydrate
spin resonance and, 98
Carbon
ion exchange and, 160, 161
thermochemical properties of, 2
in gaseous state, 3
see also Diamond; and Graphite
Carbon dioxide
interdiffusion coefficient of, 59
radiolysis of, 126
thermochemical properties of, 1, 3
triple point of, 1
vibration intensities of, 348
vibration spectrum of, 345
Carbon dioxide ion
spectrum of, 328
Carbon disulfide
electronic transitions of, 323-24
Carbon disulfide ion
spectrum of, 328
Carbonic acid
dehydration of, 222
Carbonium ion
reaction kinetics and, 233-34
Carbon monoxide
absorption coefficients of, 322
band spectra of, 317
chemisorption of
spectroscopy and, 352
excitation of, 208
forbidden transitions and, 320
nitrogen dioxide and
kinetics of, 202
quadrupole coupling of, 344
thermochemical properties of, 3, 13
Carbon oxysulfide
dipole moment of, 344
molecular constants of, 345
Carbon radical
spectrum of, 327
Carbon tetrachloride
radiolysis of, 128
thermochemical properties of, 7
Carbonyl compound
hyperconjugation and, 295
Carbonyl group
electronic structure of, 259
Carboxylic acid
hydration of
hydrogen bonding and, 298
see also specific carboxylic acids
Catalysis
acid-base, 231-33
contact, 265-86
crystal faces and, 274-75
Fischer-Tropsch mechanism and, 280-82
hydrogen-deuterium exchange and, 271-75
ion exchange and, 171-72
magnetism and, 271, 276-78
of organic reactions, 276-83
ortho-parahydrogen conversion and, 270-71
oxides and, 268-69
reviews on, 265
Catalyst
activity of
promoters and, 270
size and, 269
dislocation density and, 269
hydrogen-deuterium exexchange and, 271-72
preparation of, 269-70
properties of, 265-70
semi-conductor, 267-68
silica-alumina, 266-67
Cellobiose
thermochemical properties of, 9
Cellotriose
thermochemical properties of, 9
Cellulose
derivatives of
as ion exchanger, 160
structure of, 190-91
viscosity and, 183
dielectric measurements on, 192
irradiation of, 133
Cellulose nitrate
birefringence of, 196
non-Newtonian flow and, 194
stress data on, 195
Ceric ion
reduction of
radiation and, 140
Cerium
high pressures and, 405
thermochemical properties of, 5
Cesium iodide
thermochemical properties of, 1, 6
Chelation
bathochromic shift and, 351
interfacial, 447

ion exchange and, 171
resins and, 169
Chemical exchange
spin resonance and, 99-100
Chemical reaction
high pressure and, 395-96
radiation induced, 131-32
inorganic solutes and, 138-39
Chemical structure
reactivity and, 287-300
viscoelastic behavior and, 189-91
Chemisorption
bonding and, 452
magnetization and, 276-78
spectroscopy and, 352, 452
transition metals and, 453
Chlorination
kinetics of 212-13
of toluenes, 303
Chlorine
thermochemical properties of, 2
Chlorine dioxide
electronic states of, 325
Chlorobenzene
electronic structure of, 259
Chloroform
decomposition of, 213
irradiation of, 133
solvent interactions of, 99
Chloroplast
electron spin resonance and, 108
Chromatography
applications of, 171
theory of, 162-64
Chromic ion
radiolysis and, 141
Chromic oxide
conductivity of
catalysis and, 268
Clay
as catalyst, 266
as ion exchanger, 158, 159, 160
Coagulation
of colloids, 440-44
double layer and, 441-42
Coal tar
thermochemical properties of, 9
Cobalt
inorganic compounds of
thermochemical properties of, 4
trivalent complexes of
spin resonance and, 98
Coesite
properties of, 402-3
Colloid
biological, 457-59
chemistry of, 439-40
interfaces and, 444-54
optical properties of, 454-55
production of, 440-44
stability of, 440-44
surfactant solutions and, 455-57
Compressibility
diamond and, 399
sound velocity and, 53
ultrasonics and, 10
Computer
superconductivity and, 30
Condensation
statistical mechanical treatment of, 380-81, 384
Conductance
catalysis and, 267-68
crystal theory and, 75-76
electrodeless cells and, 53
of electrolytes, 45-48, 52
electron transport and, 80-81
of fused salts, 53-54
high pressure and, 397, 405-7
polyelectrolyte concentration and, 167
of polymers
irradiation and, 132-33
proteins and, 457
thermal
of gas mixtures, 59
statistical mechanics and, 391-92
transference data and, 47-48
viscosity and, 52
see also Superconductivity
Configuration
optical rotation and, 436-37
Configuration interaction
calculation of, 247-48
molecular orbital calculations and, 323
Conjugated system
bond length and, 254
free electron models and, 253-54
reactivity and, 236
resonance and, 296-97
Conservation equation
nonequilibrium mechanics and, 387-88
Contact catalysis, 265-86
Coordination compound
reaction kinetics of, 228-29
spectroscopy of, 351
Copper
complexes of
ion exchange and, 169
oxide formation of
catalysis and, 268-69
thermochemical properties of, 3, 14
Correlation energy
quantum theory and, 254-60
Corresponding state
solution theory and, 65-68
Corrosion
solid-liquid interfaces and, 450
Cotton effect
definition of, 419-20
theory of, 424
Coumarin
thermochemical properties of, 8
Counter ion
binding of, 166-67
Coupled oscillator
anistropy factor and, 428
Cracking
inhibition of, 282
silica catalysts and, 282
Critical micelle concentration
colloidal properties and, 455-56
Critical point
condensation phenomena and, 384
phase composition and, 64
Cryogenics, 27-44
Crystal
diffusion in, 85
electrical properties of, 79-80
high pressures and, 407
electronic structure of, 76-79
faces
catalysis and, 274-75
galvanomagnetic effect and, 76-78
imperfections, 86-87
electron diffraction and, 367
liquid
spin resonance and, 102
paramagnetic ions in, 110-12
polymers
viscoelasticity of, 191-93
positron annihilation and, 78-79
spectroscopy of, 350
structure of
electron diffraction and, 364-67
theory of, 73-76
Cuprous oxide
thermochemical properties of, 3
Curie point
high pressure and, 408, 409
Cyanide
metal complexes of
spectra of, 350

Cyanine
electronic structure and, 254
Cyclobutane
unimolecular decomposition of, 206
Cyclobutene
Raman spectrum of, 347
Cyclohexadienyl
aromatic substitution and, 302, 303
Cyclohexane
chemisorption of, 278
radiolysis of, 129
Cyclohexene
hydrogenation of, 276
hydrogen exchange in, 273
Cycloketone
photolysis of, 211
Cycloparaffin
hydrogen exchange in, 272-73
Cyclopentane
radical abstraction of, 215
Cyclopropane
deuteration of, 274-75
pyrolysis of, 205-6
radical abstraction of, 215
thermochemical properties of, 7
Cyclotron resonance
electronic structure and, 76-77
Cysteine
radiolysis of, 148

D

Dehydrogenation
catalysis and, 282-83
Density
of coesite, 402
Deoxypolynucleotide
gradient elution of, 164
Deoxyribonucleic acid
non-Newtonian flow and, 194
radiolysis of, 149
viscosity of, 183
Deuterium
hydrogen exchange with, 100
catalysis and, 271-75
relaxation and, 94-95
rotation spectrum of, 344
thermochemical properties of, 2
Deuterium oxide
kinetics and, 225
radiolysis of, 136
Deuterobenzene
synthesis of, 279
Diacetylene
Raman spectroscopy of, 344
Diacetylene ion
spectrum of, 328
Diamond
compressive strength of, 399
elastic properties of, 80
synthesis of
high pressures and, 401-2
Diatomic molecule
band systems of, 315-18
dissociation of, 318-20
forbidden transitions and, 320-21
molecular electronic spectra of, 315-23
theory of, 322-23
predissociation of, 318-20
spectral intensities of, 321-22
vibration-rotation bands of, 349
Diazoester
decomposition of, 276
Dibenzene chromium
spin resonance and, 102, 107
Diborane
molecular orbitals of, 332
Dichloromethylene
formation of, 307
Dichroism
circular
rotatory power and, 417-19
Dielectric constant
high pressure and, 408, 409
reaction rate and, 223-24
Diethyl ketone
recombination of, 204
Diffusion
of carbon dioxide, 59
catalysis and, 276
critical points and, 64
film
theory of, 163
sedimentation equilibrium and, 442
solid state and, 85-86
thermal, 59
Diketopiperazine
electron diffraction by, 366
Dimethylketene
photolysis of, 307
Diphenoquinone
electron spin resonance and, 108
Diphenyl
see Biphenyl
Diphenylamine
derivatives of
thermochemical properties of, 9
Diphenyl nickel
proton resonance of, 97
Diphenylpicrylhydrazyl
free radicals and, 108, 109
polarization of
spin resonance and, 112
Dipole-dipole interaction
electron spin resonance and, 109
Dipole moment
bond moments and, 348
calculation of, 262
microwave spectroscopy and, 344
table of, 341-43
Disproportionation
of alkylbenzenes, 302
Dissociation
of diatomic molecules, 318-20
energy of
quantum theory and, 257
spectroscopy and, 318-20
of polyatomic molecules, 329-31
Domain pattern
adsorption hysteresis and, 452
ferromagnetism and, 84
Donnan equilibrium
theory of, 166
Dosimetry
radiation and, 150-51
Double resonance
application of, 113
hyperfine structure and, 109-10
Dye
as dosimeters, 150-51
reduction of
radiolysis and, 147

E

Elasticity
of crystals, 79-80
of polymers
theory of, 181-82
Electrical resistance
high pressure and, 397, 405-7
Electrocapillary phenomena
potential difference and, 53
Electrode
ionization constants and, 50-51
techniques for, 48
Electrodialysis
membranes for, 164
Electrolyte
colloid coagulation and, 441-42
conductance and, 45-48
solutions of, 45-56
concentration of, 166
Russian studies, 52-54
see also Polyelectrolyte
Electromotive force

ionic association and, 49-51
Electron
of conjugated systems
quantum theory of, 253
π-Electron
theory of, 258-60
Electron diffraction
apparatus for, 364-65
atomic scattering function and, 360-61
bond lengths and, 363-64, 371, 373-75
crystal structure and, 364-67
by formic acid
microwave spectroscopy and, 375
by gases, 360-64
molecular scattering function and, 360
molecular structure and, 359-67
rotating sector method and, 361-63
Electron exchange
resins for, 160, 161
Electron gas
theory of, 73-75
Electronic energy
theories of, 254-60
Electronic structure
of ammonia, 251-52
of boron-hydrogen molecule, 251, 323
correlation energy and, 254-60
of crystals
determination of, 76-79
free electron models and, 253-54
of helium, 245-48
of lithium, 249-51
molecular orbital theory and, 332
molecular quantities and, 260-63
of oxygen, 249
quantum theory of, 245-64
united atom orbitals and, 252
vibrational interaction and, 331
Electronic transition
of polyatomic molecules, 323-29
Electron impact
gases and, 124-25
Electron microscopy
crystal dislocations and, 86
Electron spin density
calculation of, 261-62
Electron spin resonance, 93-122
apparatus for, 113-14
reviews on, 93
see also Spin resonance
Electron transfer
kinetics and, 216-17, 226-27
solid state and, 80-81
Electrophilic reactivity
of benzene derivatives, 294
Electrophoresis
applications of, 171
protein complexing and, 457
Electrostatic energy
ionic crystals and, 76
Elimination reaction
base-catalyzed, 234-35
Emulsification
spontaneous, 444
Emulsion
properties of, 447
Energy
of activation
calculation of, 201-2
of dissociation
quantum theory of, 257
electronic
theories of, 254-60
exchange
intermolecular, 207-8
of excited state
in diatomic molecules, 322-23
for ion pair production
in gases, 123-24
nonrelativistic
of helium atom, 246
resonance
of aliphatic series, 296-97
surface
determination of, 450
theory of, 444-45
Enthalpy
of hydrogenation
resonance and, 296, 297
titration for, 10
Entropy
of activation
acid hydrolysis and, 233
adsorbent perturbation and, 451
helium phases and, 40
high pressure and, 395
of ionization, 16
spin echoes and, 102-3
Enzyme
electron transfer and, 108
Equation of state
for gases
Bose-Einstein, 386
dense, 381-84
dilute, 380, 381
high pressure and, 411-12
for liquids, 381-84
for surfactant films, 444-45
thermochemistry and, 10
two-phase systems and, 384
Equilibrium
approach to
statistical mechanics and, 390
ion exchange and, 162-64
keto-enol, 99
thermochemistry and, 15-17
Erbium
high pressures and, 405
Ergodic theorem
proof for, 387
Erythrocyte
membrane of, 459
Ester
hydrolysis of, 231-32
steric effects and, 299
Ethane
auto-oxidation of, 217
chemisorption of, 278
chlorination of, 212-13
hindered rotation studies and, 339
pyrolysis of, 209
spin resonance and, 100-1
Ethanol
conductance in, 48
dehydrogenation of
catalysis and, 268
Fischer-Tropsch synthesis and, 280-81
oxidation of, 228
radiolysis of, 129-30
aqueous, 145-46
Ether
cleavage of, 233
Ethylaminediamine
absorption bands of, 430
Ethylcyclobutane
unimolecular decomposition of, 206
Ethylene
adsorption of
spectroscopy and, 351
chlorination of, 212-13
cracking of, 210
excited states of, 325
hydrogenation of
magnetization and, 276-78
perhalogenated
vibrations of, 347
polymerization of, 131, 214-15
catalysis and, 270
radiolysis of, 127
vibration intensities of, 348
Ethylenediaminetetraacetic acid
plutonium complexes of, 169
separations with, 170
Ethylene oxide
hydrolysis of, 233
Ethyl halide
electron impact and, 124
Ethylidine radical

reactions of, 216
Ethyl methyl ketone
conductance in, 48
Ethyl radical
recombination of, 204
Evaporation
surface films and, 446
Excited state
of diatomic molecules
energy of, 322-23
Explosive
high pressures and, 410-11
thermochemical properties of, 9
Extinction coefficient
acidity and, 295
of diatomic gases, 321-22

F

Fatty acid
surface energy of, 450
Feldspar
as ion exchanger, 159
Fermi-Dirac liquid
helium and, 37-40
Ferrimagnetic substance
infrared absorption and, 84
Ferrocene
aromatic substitutions and, 303
spin resonance and, 102
Ferromagnetism
catalytic activity and, 271
domain patterns and, 84
high pressure and, 408, 409
superconductivity and, 30
Ferrous chloride
radiolysis and, 143-44
Ferrous ion
oxidation of
radiolysis and, 143
Ferrous sulfate
aqueous
radiolysis of, 137, 138
dosimetry and, 150
oxidation of
radiolysis and, 144
Fischer-Tropsch mechanism
catalysis and, 280-82
Flame
cool
spectra of, 345
enthalpy and, 13
Flash photolysis
of bromine, 203
fast reactions and, 222
of halogen-oxygen mixtures, 318
of hydrogen sulfide, 208
of iodine, 203
of ozone, 204, 208
Flotation
adsorption and, 450
Fluorescence
rate equations and, 221
Fluorination
of aromatics, 302
Fluorine
dissociation of, 319
spin resonance and, 98, 99, 101
thermochemical properties of, 2
Fluorobenzene
in benzene, 63
magnetic shielding in, 293-94
rotation structure of, 344
spin resonance and, 97
spin-spin interaction and, 100
Fluorocarbon
solutions of, 62-63
thermochemical properties of, 8
Fluoropropylene
rotational barriers and, 340
Foam
properties of, 446
Forbidden transition
of diatomic molecules, 320-21
of polyatomic molecules, 333
Formaldehyde
bond length in, 372
electronic transitions of, 324-25
forbidden transitions of, 333
predissociation of, 330
vibrational assignments of, 345
Formamide
rotation structure of, 340, 344
Formic acid
bond length in, 375
Free energy
electrophilic reactivity and, 294
of formation
galvanic cell and, 15-16
of immersion, 448
of interaction
charged sols and, 441
thermochemistry and, 15-17
Free radical
see Radical
Freezing point
porosity and, 11
Friction
adhesion and, 453-54
superfluidity and, 34-36
Friedel-Craft reaction
kinetics of, 300-1
Fumaric acid
configuration of, 101
thermochemical properties of, 7, 12
Fused salt
properties of, 53-54

G

Gadolinium
high pressures and, 405
Gallium
spin resonance and, 98
Galvanic cell
free energy of formation and, 15-16
Galvanomagnetic effect
crystal structure and, 76-78
Gamma-ray
high intensity apparatus for, 151
Gas
dense
statistical mechanics and, 381-84
dilute
statistical mechanics and, 380-81
electron diffraction by, 360-64
in fluorocarbons, 63
interfaces and, 53, 444-46, 450-53
ion exchange and, 162
kinetics of reactions of, 201-20
molecular structures of, 373-75
radiation chemistry and, 123-28
radiolysis of, 125-26
reaction mechanisms of, 201-20
solutions of, 57-60
thermal diffusion and, 59
Gelatin
conductivity of, 457
Geology
high pressure and, 402-3
Germanium
complexes of
ion exchange and, 168
electrical resistance of
high pressures and, 406-7
hydrogen-deuterium exchange and, 272
melting point of
pressure and, 400
thermochemical properties of, 3
Glass
irradiation of, 133
Glass electrode
ionization constants and, 51
Glucose
isomerization of, 171

mutarotation of, 233
radiolysis of, 147-48
Glutathione
radiolysis of, 148
thermochemical properties of, 8
Glycerophosphate
radiolysis of, 149
Glycine
radiolysis of, 148
Glyoxal
electronic states of, 325
Gold
electron diffraction and, 366
thermochemical properties of, 4, 14
Gradient elution
theory of, 164
Graphite
heat capacity of, 11
surface homogeneity and, 451
thermochemical properties of, 2
Guanidinium ion
spectrum of, 350

H

Hafnium
thermochemical properties of, 5
Hafnium oxide
ion exchange of, 169-70
Halide
band spectra of, 318
dissociation energies of, 319, 320
transitions of, 320
see also Alkali halide; Alkyl halide; and specific halides
Hall effect
high pressures and, 409-10
Halobenzene
molecular electronic spectra of, 328
Haloform
hydrolysis of, 307
Halogen
dissociation energies of, 320
exchange reactions of, 229-30
see also specific halogens
Halogenation
of aromatic compounds, 237-38
Hammett equation
definition of, 288-89
Heat
of adsorption, 451
capacity
see Heat capacity
content
see Enthalpy
of dilution, 12-13
of immersion, 448-49
of solution
of electrolytes, 52
micelle concentration and, 456
specific
see Specific heat
Heat capacity
of ferrospinels, 84
measurements of, 11-12
Heavy water
kinetics and, 225
radiolysis of, 136
Helium
configuration interaction of
orbitals and, 247-48
as Fermi-Dirac liquid, 37-40
ionization potential of, 245
nonrelativistic energy of, 246
as quantum liquid, 30-41
quantum theory of, 245-48
repulsion between, 248-49
solid, 40-41
solutions of, 60
thermochemical properties of, 1, 2
Helium II
excitations in, 31-33
friction and, 34
Hemiacetal
thermochemical properties of, 9
Hemoglobin
electron spin resonance and, 111
n-Hexane
radiolysis of, 127
Hexaphenylethane
electron spin resonance and, 107
Hexene
thermochemical properties of, 8
Holmium
thermochemical properties of, 5
Hot atom
chemistry of, 134
Hydration
hydrogen bonding and, 298
of ions
calculation of, 51-52
Hydrazinium fluoride
bond length in, 369
Hydrazoic acid
photolysis of, 350
Hydride
band spectra of, 316
transitions of, 320-21
see also specific hydrides
Hydrocarbon
alkylation of
catalysis and, 280
aromatic
electron spin resonance and, 106
chlorinated
as dosimeters, 150
deuteration of, 274-75
electronic structure of, 258-60
heat capacity of, 12
hydrogenation of
magnetization and, 276-79
isomerization of
catalysis and, 282-83
separation of
thermal diffusion and, 59
synthesis of
Fischer-Tropsch mechanism and, 280-82
thermochemical properties of, 7-9, 11, 12
Hydrochloric acid
activity coefficients of, 49
thermochemical properties of, 2, 12
Hydrodynamic equation
nonequilibrium systems and, 387-88
Hydrofluoric acid
thermochemical properties of, 2
Hydrogen
adsorption of
spectroscopy and, 351
atomic
on aqueous organic systems, 148
chemisorption of, 277-78
deuterium exchange with, 100
aromatic systems and, 237, 303
catalysis and, 234, 270-75
electron diffraction and, 365, 366
ground state of, 323
homogeneous reactions of, 227
isotopic mixtures of, 60-61
liquefaction of, 270
liquid
spectrum of, 349
ortho-para conversion of
catalysis and, 270-71
oxidation of, 218
relaxation and, 94-95
rotation spectrum of, 344
solid
spectrum of, 349
Hydrogenation
calorimetry and, 12

chemisorption and, 276-79
enthalpies of, 296, 297
hyperconjugation and, 296
kinetics of
catalysis and, 276
Hydrogen bond
solutions and, 63-64
solvation and, 298
spectroscopy and, 350
vibration spectra and, 347
Hydrogen chloride
ionization of, 50, 51
Hydrogen cyanide
electronic transitions of, 324
predissociation of, 329-30
vibration spectrum of, 344-45
Hydrogen fluoride
conductance in, 48
in fluorocarbons, 63
thermochemical properties of, 2
Hydrogen peroxide
decomposition of, 218
ferrous ion and, 227
photolysis of, 139
radiolysis of, 138-39
water and, 135-38
Hydrogen sulfide
flash photolysis of, 208
vibration spectrum of, 345
Hydrolysis
acidity functions and, 306
of esters
kinetics and, 231-32
steric effects and, 299
Hydronium ion
spectrum of, 346
Hydroxide
surface energy and, 450
Hydroxylamine
thermochemical properties of, 2
Hydroxyl radical
reactivity of, 139
water radiolysis and, 135-45
8-Hydroxyquinoline
radiation resistance and, 131
Hyperconjugation
in aliphatic systems, 296
in aromatic systems
alkyl substituents and, 295
Hypochlorous acid
disproportionation of, 228
Hysteresis
adsorption, 451-52

I

Ice
adhesion of, 453-54
Imidazole
as catalyst, 232
Indium
melting point of
pressure and, 400
Inductive constant
acid ionization and, 289-90
Infrared spectroscopy
adsorption and, 351-52
apparatus for, 344
chemisorption and, 452
enthalpy and, 13
interferometric, 352
polar solutions and, 64
rotation spectra and, 344
spin resonance and, 98
vibration spectra and, 344-47
Inorganic complex
ion exchange and, 168-69
Inorganic reaction
kinetics of, 226-31
Inorganic substance
thermochemical properties of, 2-7
Insulin
radiolysis of, 148
Intensity distribution
of vibration-rotation structures, 321-22, 347-49
Interdiffusion
coefficient of, 58-59
Interface
liquid-air, 444-46
liquid-liquid, 446-47
physical chemistry of, 444-54
proteins and, 457-58
solid-gas, 450-53
solid-liquid, 447-50
solid-solid, 453-54
Interferometry
ion exchange studies and, 163
Intermolecular complex
solutions and, 64-65
Intrinsic viscosity
molecular weight and, 185
Iodine
flash photolysis of, 203
ion exchange of, 170
as radical scavengers, 128-29, 130-31
Ion exchange
analytical applications of, 169-71
catalysis and, 171-72
chemistry of, 157-78
equilibrium and, 162-64
inorganic studies and, 168-69
kinetics and, 162-64
membranes, 164-66
mineral exchangers, 158-60
polyelectrolytes, 166-68
resins, 160-62
reviews on, 157-58
theory of, 162-64
Ion exclusion
ion exchange and, 170
Ionic association
determination of, 49-51
Ionic hydration
determination of, 51-52
Ionic strength
reaction kinetics and, 230
Ionization
of acids
inductive effects and, 289-90
of benzoic acids, 291-92
of electrolytes
determination of, 49-52
of phenols, 292-93
of polyatomic molecules, 329-31
Ionization constant
of organic acids, 49
Ionization potential
of diatomic molecules, 322
Ion-molecule reaction
kinetics and, 216-17
radiation and, 126-27
Ion-solvent effect
determination of, 51-52
Iron
ion exchange of, 169
melting point of
pressure and, 401
oxides of
thermochemical properties of, 4, 16
Irreversible process
conservation equations and, 387-88
reciprocal relations and, 388
statistical mechanics and, 387-92
transport coefficients and, 390-92
transport equations and, 388-90
Irrotational flow
superfluidity and, 34-36
Isobutane
decomposition of, 265
Isomer
thermal diffusion and, 59
Isomerization
of hydrocarbons
catalysis and, 282-83
Isopiestic method
activity coefficients and, 49
Isotope
diffusion and, 86
liquid solutions and, 60-61
reaction kinetics and, 202, 205-6, 213, 215-16,

218, 221, 224-26
spin determinations of, 114
triple point and, 11

J

Jahn-Teller effect
theory and, 331

K

Kaolinite
as ion exchanger, 159
Ketene
diradicals from, 216
photolysis of, 211-12, 216, 307
Keto-enol equilibria
solvent interactions and, 99
Ketone
photolysis of, 210, 211
pyrolysis of, 211
Kinetics
acidity functions and, 304-5
of aromatic reactions, 236-39
auto-oxidation and, 217
of bimolecular reactions, 212-13
of dissociation-recombination reactions, 203-5
of elimination reactions, 234-35
energy exchange and, 207-8
of fast reactions, 222
free radicals and, 213-18
of gas phase reactions, 201-20
of halogenation, 237-38
of hydrogenations
catalysis and, 276
of inorganic reactions, 226-31
ion exchange and, 162-64
isotope effects and, 224-26
mass spectra and, 207
mathematical techniques in, 221-22
of organic reactions, 208-12, 231-39
pressure and, 222
rate theory and, 201-3
of solutions, 221-44
solvent effect and, 222-24
of solvolysis
steric effects and, 298-99
of substitution reactions, 237-39
tracer studies and, 229-30
of unimolecular reactions, 205-7
Knight shift
metal spin resonance and, 104-5

L

D-Lactic acid
absolute configuration of
optical rotation and, 436
Lambda transition
of helium, 31
specific heat and, 37
theory of, 36-37
Lanthanide
ion exchange of, 169, 170
Lattice gas
liquid theory and, 382-83
Lead
melting point of
pressure and, 400
thermochemical properties of, 3
Lead carbonate
electron diffraction by, 366
Lecithin
films of, 458
Light
velocity of, 345
Light scattering
double layer and, 456
particle size distribution and, 454-55
Liquid
interfaces and, 53, 444-50
organic
radiation and, 128-32
parahydrogen, 270
polymers
steady state and, 182-84
solutions, 60-68
isotopic, 60-61
nonpolar, 61-62
polar, 63-64
theory of, 65-68
statistical mechanics and, 381-84
vibrational band shape and, 349
Liquid helium
as quantum fluid, 30-41
Lithium
correlation energy of, 257
excited states of, 323
quadrupole coupling and, 260-61, 263
quantum theory of, 249-51
thermochemical properties of, 6
Lithium chloride
conductance of, 47, 48
Lithium halide
band spectra of, 318
Lithium hydride
band spectra of, 316
dissociation of, 319
Lithium nitrate
conductance of, 47, 48
Longitudinal magnetic field
of oxygen, 261
Lubricant
properties of, 449-50
Luminescence
alpha-rays and, 124

M

Magnesium
and inorganic compounds
of
thermochemical properties of, 5
Magnesium oxide
electron spin resonance and, 110
Magnetic moment
determinations of, 114
Magnetic resonance
see Spin resonance
Magnetic rotatory power
tensor theory of, 85
Magnetic shielding
in fluorobenzenes, 293-94
Magnetic susceptibility
liquid helium and, 39-40
solid helium and, 41
Magnetism
catalytic activity and, 271
chemisorption and, 276-78
high pressure and, 408-9
neutron scattering and, 82
solid state and, 81-85
see also specific magnetic effects
Magneto optic rotation
on electrolytes, 50
Maleic acid
thermochemical properties of, 7, 12
Malic acid
ion exchange of, 171
Manganese ion
hyperfine splitting of, 111
Mass spectrometry
radiation chemistry and, 124
thermochemistry and, 13-15
Master equation
nonequilibrium mechanics and, 389-90
Mechanical behavior
of polymers, 179-200
Melamine
electronic structure of, 259
Melting point
high pressures and, 399-401
Membrane
of erythrocytes, 459
ion exchange and, 164-66
olfactory
adsorption and, 459
proteins and, 457-58

Mercury
vapor pressure of, 58
Mesitylene
adducts of, 302
Metal
antiferromagnetic, 82-87
catalyst surface and, 267
diffusion in, 85
dislocations in, 86
electrical resistance of
high pressures and, 406-7
electronic structure of, 76-77
point defects and, 87
spin resonance and, 104-5
thermochemical properties of, 2-6
Methane
adsorption of
spectroscopy and, 351-52
crystalline phase of, 10-11
derivatives of
bond lengths in, 371, 372, 373
mass spectrum of, 124
radiolysis of, 126-27
relaxation and, 95
solid
diffusion and, 86
spin resonance and, 102
thermochemical properties of, 7
vibrational assignments of, 345
Methanol
Fischer-Tropsch synthesis and, 281-82
hydrogen bonding in, 350
radiolysis of, 129
Methionine
ionization of, 49
radiolysis of, 148
Methyl acetate
photolysis of, 204-5
Methylallene
rotational barriers and, 340
Methylamine
rotational barriers and, 340, 345
N-Methylanilide
hydrolysis of
steric effects and, 299
Methyl cyanide
vibration spectrum of, 345
Methylene
derivatives and
formation of, 307
physical chemistry of, 307-8
radical reactions of, 308
Methylene blue
as dosimeters, 150
reduction of
radiolysis and, 147
Methyl halide
bond lengths in, 371, 372
infrared spectroscopy of, 344
potential energy functions of, 347
spin resonance and, 97
Methylketene
photolysis of, 307
Methyl radical
deuterated, 215-16
excited states of, 327
ionization potential of, 331
kinetics and, 213-16
polymerization and, 214
predissociation of, 330
thermochemical properties of, 7
Methyl silane
rotational barriers and, 340
Mica
as ion exchanger, 159
Microanalysis
ion exchanger and, 171
Microwave spectroscopy
of formic acid
electron diffraction and, 375
rotation spectra and, 339-44
structural information from
table of, 341-43
velocity of light from, 345
Mineral
synthesis of
high pressures and, 403
Molal
micelle solubilization and, 456
Molecular electronic spectra, 315-38
of diatomic molecules, 315-23
of polyatomic molecules, 323-33
Molecular ion
spectra of, 328
Molecular orbital
of ammonia molecule, 252
applications of, 332-33
configurational interaction and, 323
united atom orbitals and, 252
see also Quantum Theory
Molecular rotation
equation for, 418
Molecular scattering function
electron diffraction and, 360
Molecular structure
electron diffraction and, 359-67
electronic, 245-64
experimental, 359-78
magnetic resonance and, 367-70
Molecular weight
viscoelastic behavior and, 188-89
viscosity and, 183, 184, 185
Molybdenum oxide
thermochemical properties of, 4, 14
Montmorillonite
as ion exchanger, 158, 159
Mutarotation
catalysis of, 233

N

Naphthalene
electronic structure of, 258-59
magnetic resonance and, 106, 222
positron annihilation and, 79
thermochemical properties of, 8
Neopentane
radiolysis of, 127
Neutron
helium excitations and, 33-34
scattering
inelastic, 80
magnetization and, 82
Nickel
thermochemical properties of, 4
Nitrate
radiolysis of, 134, 144-45
Nitration
of aromatics, 301
Nitric acid
activity coefficients of, 48-49
Nitric oxide
absorption coefficients of, 321-22
band spectra of, 317
electron spin density of, 262
radiolysis of, 125
vibration spectrum of, 345
Nitrite
from nitrate
radiolysis and, 144-45
Nitrogen
absorption coefficients of, 321
band spectra of, 316-17
bond energy of, 124
forbidden transitions and, 320
oxides of
kinetic studies with,

217-18
thermochemical properties of, 2
see also specific oxides
thermochemical properties of, 2, 13
Nitrogen dioxide
carbon monoxide and kinetics of, 202
electronic states of, 325
potential energy functions of, 347
radiolysis of, 125
thermochemical properties of, 2
Nitrogen pentoxide
decomposition of, 206
entropy of formation of, 218
thermochemical properties of, 2
Nitrogen tetroxide
bond length in, 374
spectrum of, 350
Nitrosamine
spin resonance and, 98
Nitrosyl chloride
thermochemical properties of, 2
Nitrous acid
amines and, 233-34
thermochemical properties of, 2
Nitrous oxide
radiolysis of, 125, 126
solid
spectrum of, 350
Nobelium
ion exchange of, 157, 168
Nonelectrolyte
solutions of, 57-71
Non-Newtonian flow
polymer systems and, 193-94
Nonpolar liquid
mixtures of, 61-62
Nuclear moment
determinations of, 114
Nuclear polarization
spin resonance and, 103-4
Nuclear precession
techniques for, 114
Nuclear spin resonance, 93-122
see also Spin resonance
Nucleic acid
radiolysis of, 149
viscosity of, 183, 194
Nylon
crosslinking of, 133
dynamic behavior of, 193
stress relaxation of, 192

O

β-Octylnitrite
anisotropy factor and, 430-35
Odor
adsorption and, 459
Olefin
hydrogenation of
poisoning of, 279
hyperconjugation and, 296
methylene additions to, 308
oxidation of, 228
thermochemical properties of, 7, 8, 9
see also specific olefins
Optical pumping, 112-13
Optical rotation, 417-38
absorption bands and, 417-24, 430-35
anisotropy and, 417-19, 424-30
applications of, 435-37
circular dichroism and, 417-19
cotton effect and, 419-20
enthalpy and, 13
Organic acid
ion exchange of, 170
Organic liquid
radiation and, 128-32
Organic peroxide
from radiation
biological effects of, 149
Organic reaction
acid-base catalysis and, 231-33
aromatic systems, 236-39
substitution and, 300-3
carbanion and, 234-35
carbonium ion and, 233-34
catalysis of, 276-83
kinetics of, 208-12, 231-39
sigma values and, 287-300
structure and, 287-300
Organic substance
oxidation of
kinetics of, 228
thermochemical properties of, 7-9
Orientation polarization
on crystals, 451
Osmotic pressure
isotopic mixtures and, 60
Ovalbumin
radiolysis of, 149-50
Ovaloid
kinetic theory of, 391
Overhauser effect, 103-4
Oxalic acid
absorption bands of, 430
Oxidation
molecular oxygen and, 217
of organic substances
kinetics of, 228
Oxide
band spectra of, 317-18
dissociation energies of, 319-20
electrical resistance of
high pressures and, 406
surface energy of, 450
transitions of, 321
Oxonium ion
spectrum of
in liquids, 346
Oxydo-reduction
kinetics of, 227-28
radiation and, 139-44
Oxygen
absorption coefficients of, 321
auto-oxidation and, 217
dissociation of, 319
exchange
alcohols and, 233
excited states of, 323
forbidden transitions of, 321
molecular quantities of, 261, 262, 263
quantum theory of, 249
as scavenger, 136
in water
determination of, 171
Oxyhemoglobin
ion exchange membranes of, 165
Ozone
decomposition of, 217
electronic structure of, 332
flash photolysis of, 204, 208
thermochemical properties of, 2

P

Palladium
thermochemical properties of, 4
Parahydrogen
conversion of
bacteria and, 457
Paramagnetic ion
in crystals, 110-12
Paramagnetic substance
neutron scattering of, 82
nuclear resonance in, 112
Parity
cryogenics and, 27
solid state and, 79
Partial molar volume
of electrolyte solutions, 53
Partition function
of activated state, 201-2
Peanut butter
diamonds from, 401
Pentose
ion exchange of, 170
Peptide
ion exchange of, 170
ionization of, 50

radiolysis of, 149
synthesis of, 232
Perchlorate ion
radiolysis of, 144
Perchloric acid
activity coefficients of, 48, 49
thermochemical properties of, 2
Perchloryl fluoride
thermochemical properties of, 2, 14-15
Perinaphthene
electron spin resonance and, 106-7
Periodate
irradiation of, 134
Permanganate
organic oxidations and, 228
Permanganate ion
radiolysis and, 141
Peroxydisulfuric acid
decomposition of, 228
Peroxy radical
phosphite and, 143
water radiolysis and, 136-37
Perylene
electron spin resonance and, 106
Phase
thermochemistry and, 10-11
transitions
of solid helium, 40-41
Phase rule
variables and, 11
Phenol
from benzene
radiolysis and, 146-47
ionization of, 292-93
vibration intensities of, 349
Phenylalanine
hydroxylation of
radiolysis and, 148
Phonon
energy of, 31
Phosgene
thermochemical properties of, 3
Phosphate
adsorption of, 159
polyphosphate
ion exchange of, 169
Phosphate ion
radiolysis of, 136
Phosphido radical
electronic states of, 326
Phosphite ion
radiolysis and, 142-43
Phospho amino acid
ion exchange of, 170
Phosphonium iodide
spectrum of, 350
Phosphor
high pressure and, 410
Phosphoric acid
thermochemical properties of, 2
Phosphorus
band spectra of, 315-16, 317
melting point of
pressure and, 400
Photolysis
of aldehydes, 210
of ceric-thallous ion mixtures, 140-41
flash
see Flash photolysis
of hydrogen peroxide, 139
of ketene, 211-12, 216, 307
of ketones, 210, 211
kinetics and, 209
methylene formation and, 307
Phthalocyanine
electron spin resonance and, 108
radiation resistance and, 131
Physical organic chemistry, 287-314
acidity functions, 303-7
aromatic substitution, 300-3
of methylenes, 307-8
reactivity
sigma values and, 287-300
Picrate
conductance of, 48
Picric acid
spectra of, 351
Pinacol-pinacolone rearrangement
isotope effect and, 225
Piperidinium ion
ionization of, 49
Plasmon
crystal theory and, 74-75
Platinum
thermochemical properties of, 4
Point defect
solid state and, 87
Polarization
nuclear, 103-4
radiation and, 150
Polar liquid
mixtures of, 63-64
Polar solvent
nonradical mechanism and, 224
Polyacene
electronic structure of, 258
Polyacrylamide
synthesis of, 132
Polyatomic molecule
molecular electronic spectra of, 323-33
Polyatomic radical
molecular electronic spectra of, 325-28
Polyelectrolyte
fractionation of, 167-68
ion exchange and, 166-68
Polyene
birefringence and, 195-96
Polyester resin
copolymerization of, 132
Polyethylene
birefringence of, 195
non-Newtonian flow and, 194
radiation effects on, 132
spin resonance and, 102
stress relaxation of, 192
structure of, 190
synthesis of
radiation and, 131-32
viscosity and, 183
Polyhexene-1
viscoelastic behavior of, 190
Polyisobutylene
birefringence of, 195-96
mechanical properties of, 191
molecular weight of, 189
non-Newtonian flow and, 194
stress data on, 195
Polymer
adhesion between, 450
at interfaces, 447
irradiation of, 132-33
liquid, 182-84
mechanical properties of, 179-200
theory of, 179-81
non-Newtonian flow and, 193-94
solid
elasticity and, 181-82
spin resonance and, 102
stress and, 179-81, 195
viscoelastic behavior of
amorphous systems and, 184-91
crystalline systems and, 191-93
theory of, 193
Polymerization
catalysis and, 279-80
graft, 133
methyl radical and, 214-15
radiation-induced, 131-32
Polymethylene
birefringence of, 195
Polymethyl methacrylate
molecular weight of, 189
non-Newtonian flow and, 194
radiation effects on, 132
structure of, 190
Polyphosphate
ion exchange of, 169

Polystyrene
molecular weight of, 189
radiation effects on, 132
viscoelastic behavior of, 187, 188
Polystyrolene
irradiation of, 132, 133
Polytetrafluoroethylene
stress relaxation of, 192
Polytrifluorochloroethylene
stress relaxation of, 192
Polyurethane
viscoelastic behavior of, 190
Polyvanadate ion
radiolysis and, 141
Polyvinyl acetate
molecular weight of, 189
viscoelastic behavior of, 187, 188
Positron annihilation
electronic structure and, 78-79
Potassium
thermochemical properties of, 6
Potassium chloride
conductance of, 47
double resonance and, 109-10
thermochemical properties of, 6
Potassium ferrocyanide
electrical resistance of high pressures and, 407
radiolysis and, 142
Potassium iodide
spin echoes of, 102
Potassium nitrate
thermochemical properties of, 6
Predissociation
of diatomic molecules, 319-20
of polyatomic molecules, 329-31
Pressure
electron spin resonance and, 111
high
apparatus for, 396-99
crystal defects and, 407
developments in, 395-416
diamond synthesis and, 401-2
dielectric constant and, 408, 409
electrical resistance and, 405-7
equation of state and, 411-12
geology and, 402-3
hall effect and, 409-10
magnetic effects and, 408-9
melting points and, 399-401
mineral synthesis and, 403
radioactive decay and, 412
by shock waves, 410-11
spin resonance and, 409
superconductivity and, 403-4
transference number and, 409
kinetics and, 222
liquid helium and, 40
surface films and, 445-46
Propane
deuteration of, 274, 275
polymerization of, 279
Propene
polymerization of, 279-80
Propionyl radical
formation of, 217
Propylene
rotational barriers and, 340
thermochemical properties of, 7
Propylene oxide
microwave spectrum of, 340
Protein
anisotropic gels and, 168
gas adsorption theory and, 457
interfaces and, 457-58
ion binding and, 166
radiolysis of, 148, 149-50
spin resonance and, 98
Proton
paramagnetic effects and, 96
relaxation rates of, 95-96
Pyrazine
electronic structure of, 259
Pyridine
electronic structure of, 259
thermochemical properties of, 8
Pyrolysis
of cyclopropane, 205-6
of ketones, 211
kinetics and, 209
Pyrophyllite
high pressure production and, 397-98

Q

Quadrupole coupling constant
of lithium, 260-61
of trimethyl boron, 261
Quadrupole moment
calculation of, 262-63
Quadrupole splitting
spin resonance and, 101-2
Quadrupole transition
of diatomic molecules, 320
Quantum liquid
cryogenics and, 30-41
Quantum theory
crystal electrons and, 75-76
of electronic structure, 245-64
free electron models and, 253-54
molecular quantities and, 260-63
nonempirical, 245-52
united atom orbitals and, 252
Quartz
heat capacity of, 11
Quaternary salt
of aromatics
rearrangement of, 303

R

Racemization
of alcohols, 233
hydrogen exchange and, 273
Radial distribution function
electron diffraction and, 360, 362, 363
evaluation of, 383
Radiation
catalytic activity and, 271
chemistry of, 123-56
dosimetry and, 150-51
gases and, 123-28
induced reactions, 131-32
organic liquids and, 128-32
oxydo-reductions and, 139-44
resistance to, 131
reviews on, 123
solids and, 132-34
water and, 135-50
Radical
electron spin resonance of, 105-9
exchange, 214
organic
kinetics and, 213-18
scavenging of
radiation and, 128-31
solvent effects and, 224
spectra of, 325-28
trapping of, 108
water radiolysis and, 135-38
see also specific radicals
Radioactivity
high pressure and, 412
Radiolysis
of aqueous solutions
inorganic, 135-45
organic, 145-50
of gas, 125-26
techniques in, 127-28
of organic liquids, 128-32
of water, 135-38

inorganic solutes and, 138-45
organic solutes and, 145-50
yields of, 136
Raman spectroscopy
rotation spectra and, 344
vibration spectra and, 345, 346, 347
Raoult's law
fluorocarbons and, 63
hydrogen mixtures and, 60
Rare earth metal
high pressures and, 405
Reactivity
sigma values and, 287-300
Refractive index
absorption bands and, 417-18
turbidity measurements and, 454-55
Relaxation
applications of, 94-95
multiple thermal, 95-96
theory of, 93-94
Resin
for ion exchange, 160-62
Resonance
aliphatic reactions and, 296-97
aromatic reactions and, 291-95
conjugation effects and, 296-97
energy of, 296-97
hyperconjugation effects and, 295, 296
steric inhibition of, 295, 299
see also Spin resonance
Retardation effect
radiation of gases and, 127
Ribonuclease
spin resonance and, 98
Rigid rotator distance
of carbon-hydrogen bonds, 372
Rochelle salt
polarized spectra of, 350
Rotating sector method
electron diffraction and, 361-63
Rotation
barrier height
table of, 341-43
hindered, 339-40, 346
internal, 340, 346
optical
see Optical rotation
Rotation spectra
applications of, 339-44
of polyatomic molecules
electronic transitions and, 323-29
table of information from, 341-43
Rotatory dispersion
examples of, 422-23, 432-35
Roton
energy of, 31-32
excitation spectrum of, 33
Rubber
birefringence of, 195
elastic behavior of, 181
non-Newtonian flow and, 194
spin resonance and, 102
structure of, 189-90
viscoelastic behavior of, 188
Rubidium chloride
thermochemical properties of, 6

S

Saccharide
ion exchange of, 170
oxidation of, 228
Salicylate
conductance of, 48
Salicylic acid
thermochemical properties of, 8
Second moment method
crystal structure and, 367-70
Sedimentation
colloidal systems and, 442, 443
equilibrium
diffusion and, 442
Semiconductor
catalysis
mechanism of, 267-68
high pressures and, 406
Serum albumin
expansion of, 457
ion binding and, 166
spreading of, 458
Shear
polymer properties and, 179-81
Shielding
spin resonance and, 96-98
Shock wave
enthalpy and, 13
halogen dissociation and, 203-4
high pressures and, 410-11
Sigma value
applications of, 290
of benzoic acid ionization substituents and, 292
inductive effects and, 290-91
polycyclic aromatic compounds and, 300
reactivity and, 287-300
Silane
bond length in, 374-75
Silica
catalysts of, 266-67, 282
electron spin resonance and, 111
heat capacity of, 11
thermochemical properties of, 3
Silica-alumina
as catalyst, 266-67
Silicon
electrical resistance of high pressures and, 407
thermochemical properties of, 1, 3, 10
Silicon-carbon radical
spectrum of, 327
Silicon hydride
dissociation of, 319
Silver
salts of
conductance and, 48
thermochemical properties of, 3, 14
Silver chloride
thermochemical properties of, 3
Silver oxide
electrical resistance of high pressures and, 407
Silyl halide
bond length in, 374, 375
Silyl iodide
vibrational assignments of, 345
Soap
ion exchange and, 162
Sodium atom
bimolecular reactions and, 212
Sodium azide
irradiation of, 134
Sodium bromate
conductance of, 47
Sodium chloride
conductance of, 47, 48
melting point of
pressure and, 400
thermochemical properties of, 6
Sodium fluoride
thermochemical properties of, 6
Sodium iodide
diffusion of, 159
Sodium silicate
conductance of, 47
Sodium tetraborate
thermochemical properties of, 6
Solid
defects in
electron spin resonance and, 109-10
inorganic
radiation and, 132-34
interfaces and, 447-54
microwave properties of, 85
organic

radiation and, 132-34
polymers
elasticity and, 181-82
spectroscopy of, 350-52
spin resonance and, 102
Solid state, 73-92
crystals and, 73-80
diffusion and, 85-86
electron transport and, 80-81
imperfections and, 86-87
magnetism and, 81-85
Solubility
of electrolytes, 52
of gas in liquid, 62
Solubility product
free energy and, 16
Solution
of electrolytes, 45-56
of fluorocarbons, 62-63
of gases, 57-60
hydrogen bond and, 63-64
intermolecular complexes and, 64-65
kinetics of reactions in, 221-44
of liquids, 60-68
of nonelectrolytes, 57-71
surfactant, 455-57
theory of, 65-68
vibrational band shape and, 349
Solvation
of electrolytes, 51-52
micellar systems and, 456-57
steric effects and, 297-98
Solvent interaction
kinetics and, 222-24
spin resonance and, 98-99
Solvolysis
of amides, 232
anchimeric assistance and, 299
of aromatic systems, 236-37, 238
kinetics of, 222-24
alkyl substituents and, 295
steric effects and, 298-99
Specific heat
lambda point and, 37
liquid helium and, 37, 39, 40
solid helium and, 41
superconductivity and, 29
Spectra
molecular electronic, 315-38
see also Rotation spectra; Spectroscopy; and Vibration spectra
Spectrophotometry
ion association and, 49-50
Spectroscopy, 339-58
on aromatic compounds, 328-29
bond lengths and, 370-73
derivative, 352
on diatomic molecules, 315-23
on free radicals, 325-28
intensities and, 347-49
on large molecules, 350-52
on molecular ions, 328
on polyatomic molecules, 323-33
rotation spectra and, 339-44
on solids, 350-52
superconductivity and, 29
vibration spectra and, 344-47
see also Infrared spectroscopy; Microwave spectroscopy; and Raman spectroscopy
Spin determination
of isotopes, 114
Spin echo
apparatus for, 113
magnetic resonance and, 102-3
Spin resonance, 93-122
adsorption studies and, 452-53
antiferromagnetic substances and, 83-84
bond lengths and, 368-70
chemical exchange and, 99-100
crystals and, 110-12, 367-70
echoes and, 102-3
fast reactions and, 222
fluorobenzenes and, 293-94
free radicals and, 105-9
high pressure and, 409
at low fields, 112
metals and, 104-5
paramagnetic effects, 96
polarization effects and, 103-4
polar solutions and, 64
relaxation and, 93-96
shielding and, 96-98
solid defects and, 109-10
solid structures and, 101, 102
solvent interactions and, 98-99
temperature and, 103
Spin-spin interaction, 100-1
Spin temperature
polarization and, 103
State data
thermochemistry and, 10-11
Statistical mechanics, 379-94
equilibrium, 379-87
of gases, 380-84
of liquids, 381-84
nonequilibrium, 387-92
quantum effects and, 385-87
of two-phase systems, 384-85
Steel
dislocations in, 86
Stereoisomer
resolution of
ion exchange and, 170, 171
Stereospecificity
of elimination reactions, 235
Steric effect
intramolecular, 298-99
solvation and, 297-98
Steroid
thermochemical properties of, 9
Stress
polymer properties and, 179-81, 195
Stretching frequency
of carbon-hydrogen bonds, 372
Strontium oxide
band spectra of, 317
Substitution reaction
aromatic systems and, 237-39, 300-3
ferrocenes and, 303
Sulfide
band spectra of, 318
Sulfite
oxidation of, 228
Sulfonation
for ion exchangers, 160, 161
Sulfur dioxide
conductance in, 48
thermochemical properties of, 2
vibration intensities of, 348
Sulfuric acid
conductance in, 48
radiolysis of, 136, 138, 140
thermochemical properties of, 2, 12
Sulfuryl fluoride
bond length in, 374
Superconductivity
computer circuitry and, 30
experimental, 29-30
high pressures and, 399, 403-4
Knight shift and, 104
theoretical developments on, 27-29
Superfluidity

helium isotope and, 38
theory of, 34-36
Surface
biology and, 457-59
chemistry of, 265-86, 439-68
films
liquid-air, 444, 445-46
liquid-liquid, 447, 449-50
proteins and, 457-58
interfaces and, 444-54
literature on, 439-40
tension
interface geometry and, 384-85
theory of, 444-45
wetting and, 448
viscosity, 445

T

Tantalum oxide
band spectra of, 318
thermochemical properties of, 4, 14
Tartaric acid
resolution of
ion exchange and, 170
Teflon
viscoelastic behavior of, 192
Tellurium
as semiconductor
high pressures and, 406
Temperature
gradient elution and, 164
high
apparatus for, 396-99
high pressures and, 395-403
infrared spectroscopy and, 346
scale of, 1
viscoelastic behavior and, 187-88
viscosity and, 183-84
Terbium
thermochemical properties of, 5
Ternary system
nonpolar, 61
polar, 64
Terphenyl
radiation resistance and, 131
Tetracene
electron spin resonance and, 106
Tetrahaloquinone
electron spin resonance and, 107
Tetraphenyl boron
heat capacity of, 11
Tetraphenylporphin
electron spin resonance and, 108
Thermal relaxation time, 95-96
Thermochemical property
of elements, 2
of inorganic substances, 2-7
of organic substances, 7-9
Thermochemistry, 1-26
free energy and, 15-17
heat capacity and, 11-12
mass spectroscopy and, 13-15
state data and, 10-11
techniques for, 1, 10
Thermodynamic property, 1-26
of electrolyte solutions, 48-52
of elements, 2
high pressure and, 411
hyperconjugation and, 296, 297
of inorganic substances, 1-7
of nonpolar solutions, 61, 62, 63
of organic substances, 7-9
Thermodynamics
crystal theory and, 76
high pressure and, 395, 411-12
ion exchange and, 163
micellar systems and, 456
protein films and, 458
reviews on, 17
Thermometry
techniques for, 1
Thiamine pyrophosphate
radiolysis of, 149
Thianthrene
electron spin resonance and, 107-8
Thionine
reduction of
radiolysis and, 147
Thiophosgene
electronic transitions of, 328
Thiosulfate
ionization of, 50
Thiourea
radiolysis of, 148-49
spectrum of, 350
Thulium
thermochemical properties of, 5
Thymine
radiolysis of, 149
Tin
complexes of
ion exchange and, 168
cyclotron resonance of, 77
melting point of
pressure and, 400
Raman spectra of, 346
thermochemical properties of, 3
Titanium
thermochemical properties of, 4, 14
Titanium dioxide
colloidal properties of, 444
Tobacco mosaic virus
ion exchange of, 170
Torsional frequency
table of, 341-43
Transference number
conductance and, 47-48
of fused salts, 54
high pressure and, 409
Transition metal
chemisorption and, 453
conductivities of, 81
Transition state
aromatic substitution reactions and, 238
of elimination reactions, 235
Transport coefficient
of gases, 59
nonequilibrium mechanics and, 390-92
Transport number
ion exchange membranes and, 165
Transuranium element
ion exchange of, 168
Triarylmethyl radical
electronic structure of, 259
Trichloroethylene
chlorination of, 213
as dosimeters, 150-51
Trifluoroacetic acid
dimeric form of, 347
Trimethylamine
photolysis of, 209
Triphenyl chromium
ion exchange of, 169
Triphenylmethyl
electron spin resonance of, 105-6
Triphenylmethyl chloride
solvolysis of, 223
Triple point
of argon, 1
of carbon dioxide, 1
isotopes and, 11
Triplet state
ethylene cracking and, 210
Tritiated water
kinetics and, 225
Trypsin
radiolysis of, 149
spreading of, 458
Tungsten oxide
thermochemical properties of, 4, 14, 16
Turbidity
particle size and, 454-55
Tyrosine
from phenylalanine

radiolysis and, 148

U

Ultrasonics
compressibilities and, 10
elasticity and, 80
electronic structure and, 77-78
superconductivity and, 29
Unimolecular reaction
kinetics of, 205-7
Uranium
ion exchange of, 171
Uranous sulfate
radiolysis and, 142
Uranyl acetate
as electrolyte, 12-13
Urea
bond length in
techniques and, 368-69
derivatives of
thermochemical properties of, 9
diffusion of, 159
spectrum of, 350

V

Vanadium oxide
band spectra of, 317
thermochemical properties of, 4, 14
Vapor pressure
isotopic mixtures and, 60
Vibration spectra
applications of, 344-47
of diatomic molecules
intensity distribution of, 321
electronic interaction and, 331
of polyatomic molecules
electronic transitions and, 323-29
Virial coefficient
second
of gas mixtures, 57-58
third
evaluation of, 381
Viscoelastic behavior
chemical structure and, 189-91
molecular weight and, 188-89
non-Newtonian flow and, 193-94
phenomenological theory of, 193
of polymeric systems
amorphous, 184-91
crystalline, 191-93
temperature and, 187-88
volume and, 191
Viscosity
conductance and, 52
electron spin resonance and, 108
of gas mixtures, 59-60, 61
of hydrogen mixtures, 60-61
ion-solvent interaction and, 51
of liquid helium, 38-39
of liquid polymers, 182-84
temperature and, 183-84
molecular weight and, 183, 184, 185
non-Newtonian flow and, 193-94
superfluidity and, 34-36
surface, 445
Volatility
liquid mixtures and, 62
Volume
high pressures and, 398
partial molar
of electrolyte solutions, 53
viscoelastic, 191

W

Water
acid catalysis and, 231
adsorption of, 159
electro-osmotic transport of, 165
as Friedel-Craft catalyst, 300-1
heavy
see Heavy water
hydrogen bonding in, 350
proton resonance and, 99
radiation and, 135-45
radioactive decontamination of, 171-72
radiolysis of, 126
spin echoes of, 102
thermochemical properties of, 2
Water-gas reaction
catalysis and, 281

X

X-ray diffraction
at high pressures, 398-99
X-ray scattering
by colloidal systems, 455

Y

Ytterbium
high pressures and, 405

Z

Zeta potential
colloid stabilization and, 442-43
Zirconium
oxides of
band spectra of, 317-18
ion exchange and, 160, 169-70
thermochemical properties of, 5, 14
thermochemical properties of, 5